O2Security™

Breathing Life into Security

SifoScopes 4.11

Network Behavior Monitor

User Manual

February 2009

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Chapter

1

Product Overview

This chapter includes the following sections:

- What is SifoScopes?

  Briefly introduces the SifoScopes product and the various models in the SifoScopes product family.

- What can SifoScopes Do?

  Introduces the various SifoScopes functions.

For an overall understanding of the SifoScopes product, please refer to this chapter.

1.1 What is SifoScopes?

SifoScopes is a powerful network management device with the ability to record, analyse and control employees' network activities including web page browsing, mail send/receive via mail clients (such as Outlook) or webmail, IM (Instant Messaging) software access (such as MSN, QQ, Yahoo etc.), FTP and Telnet access etc.

Using SifoScopes, employees can be prevented from using the company's network resources for personal activities, thus increasing productivity. IT administrators can also utilize the system's flow analysis function to understand the network's bandwidth utilization. This facilitates network management and maintenance.

The SifoScopes product family includes the following device models:

- SifoScopes CM1000
- SifoScopes CM2000
- SifoScopes CM3000

The term "SifoScopes" is used in this document to refer to all the above models.

1.2 What can SifoScopes Do?

The main functions provided by SifoScopes include:

1.2.1 Comprehensive Network Activity Analysis

Users' access to commonly used network services can be recorded by SifoScopes for analysis. Administrators can view web activity records based on user (records for all accessed services for each user) or service (records of all accesses for a particular service).

The network services include:

- HTTP
  - Supports proxy server mode, logging the correct URL accessed via the proxy server
  - Records the full URL of the page being browsed
  - Correctly stores all web page contents, especially for websites using Cookies. SifoScopes is able to correctly record the full content of all webpages and operations accessed by this user after he login to the site instead of only recording the site's login page.
  - Powerful searching function, allowing administrators to search HTTP records using the website name, user name, start/end time of the access and even webpage content.
  - Inbuilt language encoding mechanism unique to SifoScopes provides multi-language support. Websites records are displayed correctly within the same list even if the sites are of different languages. Administrators need not manually change the display language to view the record.
  - Displays websites using site title instead of pure URL, facilitating recognition by administrators.

- SMTP, POP3/IMAP
  - Multi-language support for mail content storage. The system can also automatically store mail contents using the Unicode encoding, preventing characters from being unrecognizable due to encoding issues.
  - Powerful searching function, allowing administrators to search recorded mails using various criteria such as mail sender, recipient, subject, whether the mail includes attachments, attachment file names, start/end time and even mail content. This tool allows administrators to find the desired mail records easily.
  - To provide greater convenience to users when managing mails, the system also supports import of mails into its record list. The file formats supported include: Outlook Express (.dbx), Outlook (.pst), Mailbox (.mbx, .mbox).

- Web SMTP, Web POP3
  - Supports commonly used web mails including Yahoo, Gmail, Hotmail, Yeah.net (网易), Sina (新浪), Sohu (搜狐), Tom, Pchome, Hinet, Seednet, Videotron, Visnetic, Yam.com (蕃薯藤) etc.
  - An automatic webmail signature pattern database update system uniquely designed for SifoScopes ensures the completeness and accuracy of webmail activity records
  - Comprehensive searching function allows administrators to search recorded webmails using various criteria such as mail sender, recipient, subject, whether the mail includes attachments, attachment file names, start/end time and even mail content. This tool allows administrators to find the desired mail records easily.

- IM
  - Multi-language support for IM records based on the system's unique language encoding mechanism
  - Stores conversation text messages and backup files transferred over IM applications
  - Supports recording of IM activities using MSN proxy and Web MSN. Also supports bi-directional audio record for the Skype application. Using SifoScopes, you can not only view records of text-based Skype conversations, but also replay or downloaded audio conversations carried out using Skype.
  - Separates recorded contents sent from different IM accounts using a unique categorizing mechanism, allowing administrators to easily search for and view recorded IM data
  - Supports emailing of record contents to specific personnel for audit purposes

- FTP, Telnet
  - Detailed recording of all transmitted data using FTP or Telnet services. The system also backup all uploaded or downloaded files. Administrators will be able to open these files from the system to view.

SifoScopes allows administrators to choose between three options, determining the level of details included in records kept for each type of service data. These options include:

- Content

  Selecting this option enables the system to record detailed data contents for the corresponding service type. For example, enable the option “Content” for data transmitted via the SMTP service from LAN users. SifoScopes will record detailed information for all mails sent by LAN users, including the mail subject, mail content body and attachments.

- Message

  This option enables to system to only record a brief summarized list containing information on each access for the corresponding service type. For example, select the option “Message” for LAN user access to the HTTP service. SifoScopes will only record a list of HTTP web site hyperlinks accessed by LAN users. The content of each accessed webpage will not be stored.

- Not Recording

  Stop recording access information for the corresponding service type. For example, select the “Not Recording” option for HTTP access by WAN users to the internal HTTP server. The system will not store any information on external accesses to the internal HTTP server.

1.2.2 IM/P2P Software Usage Management

SifoScopes supports strict management of IM/P2P applications, allowing administrators to control the types of IM/P2P applications that users can access.

For IM applications, administrators can:

- Only allow authenticated users to access IM applications

  You can set up the system to authenticate users via a user list added locally to SifoScopes or via remote RADIUS, POP3 or LDAP authentication servers.

- Define IM access rules for each user, stating whether the user is allowed, allowed to use specific IM applications, denied access to specific IM applications and whether he can transfer files over IM applications.

For P2P applications, administrators can define access rules for each user, allowing or denying the user’s access to commonly used P2P applications.

1.2.3 Analysis based on Real-time / Specific Time Interval Traffic Flow

SifoScopes can generate statistics and analysis of traffic flow for both real-time traffic and traffic generated over a specific time interval. This gives administrators an in-depth analysis of network traffic.

Traffic flow statistics display changes in network activities during a specific time period. Based on such statistics, administrators can determine the overall status of the network and detect time intervals where there are abnormal amounts of traffic flow. Ranking (top N) charts for the current date and history data functions ranks traffic flow generated by each user, department/group and service during a specific time period.

For example, when viewing the statistics reports, an administrator find that the network traffic is abnormally high during a particular time interval. He can then view the top N charts to find the cause of this traffic, such as which user caused this traffic when accessing which service.

1.2.4 Anomaly Flow Detection and Co-defense Mechanism

SifoScopes supports an innovative internal flow detection mechanism, monitoring traffic generated by each internal user according to a threshold defined by the administrator. When a large amount of data packets is transmitted from a particular address, the system assumes that this address is virus infected (for internal address) or is attempting an intrusion attack on the network (for external address). Together with a router/switch, SifoScopes can then block the source IP, preventing the network from becoming crippled due to such attacks.

1.2.5 Remote Backup and Browsing Capability

You can set up the system to automatically backup all data to a remote NAS (Network Attached Storage) or file server periodically. You can also perform this backup manually.

SifoScopes also allows you to browse backup data via the SifoScopes administrative UI directly.

1.2.6 Access Control Based on Company's Organization Structure

On the SifoScopes system, administrators can define groups (departments), categorizing each user into the various groups. Each administrator account can be assigned to monitor and browse activities of users from specific groups.

An administrator will only be able to view and manage user records for users belonging to the groups they are assigned to.

1.2.7 Automatic Generation of Periodic / History Reports

SifoScopes can automatically generate periodic reports for system traffic flow and hard disk utilization. You can also manually generate history reports via the system. This allows administrators to monitor the overall operating status of the network.

Chapter

2

Introduction

This chapter comprises of the following sections:

- SifoScopes Deployment Topology

  Explains the two SifoScopes deployment modes

- Basic System Operations

  Guides you through the procedure to login and logout of the system's user interface

- SifoScopes User Interface

  Describes the SifoScopes UI (user interface) and the various system menu options

- Task List

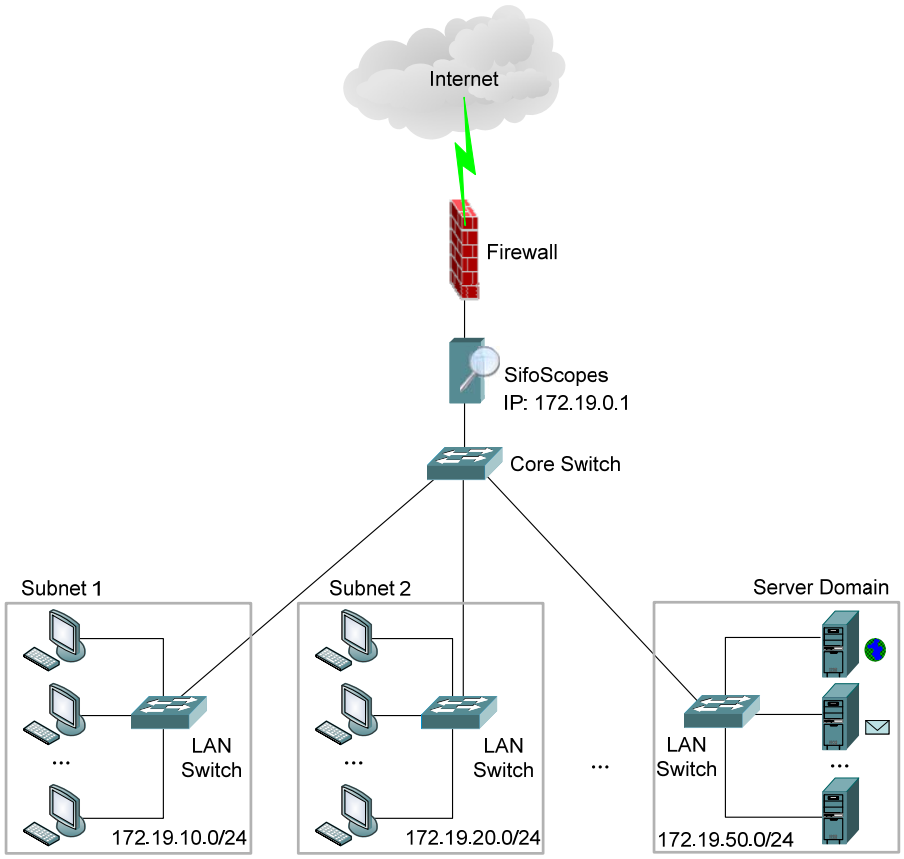
  Lists the various tasks a SifoScopes administrator may need to perform when managing the system and network activities.

2.1 SifoScopes Deployment Topology

SifoScopes supports two deployment modes: Bridge mode and Sniffer mode.

Bridge Mode

In bridge mode, one interface port (Port1 or Port2) is connected to a gateway device, such as a firewall. The other port is connected to a hub or switch device within the internal networks. An example network topology when deploying SifoScopes in bridge mode is shown below.

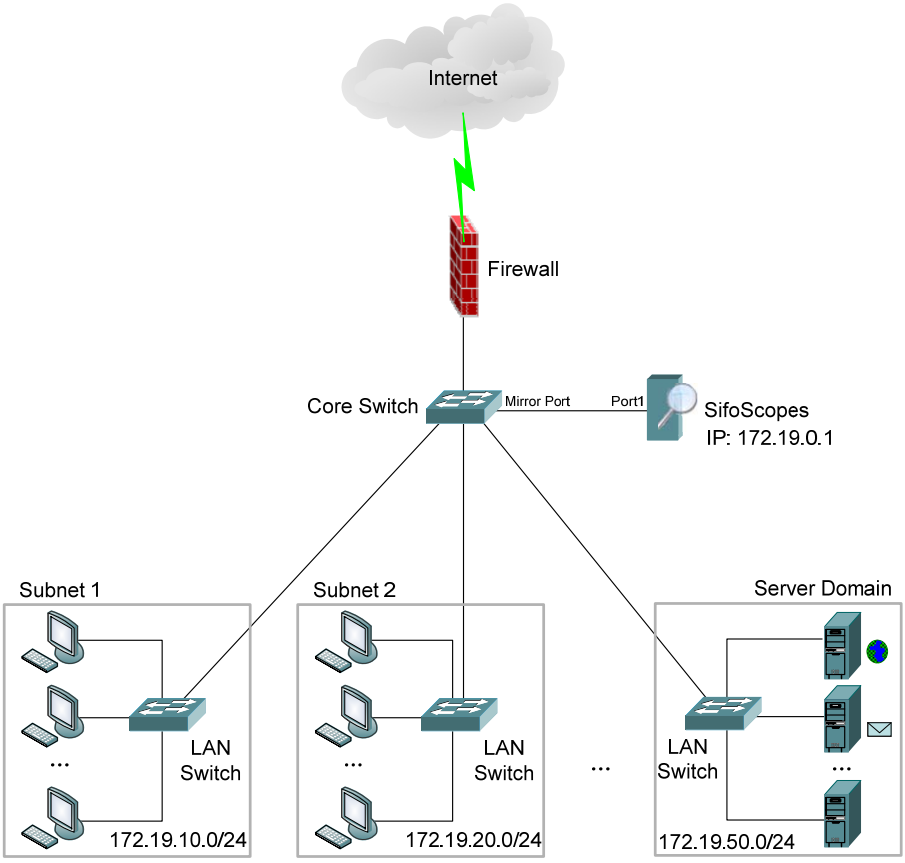


When working under bridge mode, all functions of the SifoScopes device is accessible. The system is able to monitor network activities in real time and can also block IM and P2P access, managing network traffic.

Configure your SifoML system using the IP, ftp user name and password configured on the FTP server.

Sniffer Mode

In this mode, SifoScopes' Port1 is connected to the mirror port of a core switch or any port of a Hub device deployed in the internal network. Port2 is used for administrative purposes only. The figure below shows an example of a network topology if SifoScopes is deployed in this mode.



Under sniffer mode, SifoScopes is only able to monitor network activities in real time. The system will not be able to block IM and P2P access, managing network traffic. To operate in sniffer mode, SifoScopes must be deployed together with a switch or hub equipped with mirror port capability.

2.2 Basic System Operations

2.2.1 System Login

SifoScopes administrators can login to the system's UI via a standard web browser after SifoScopes is installed and connected to your network.

📖 Note:

Please refer to the "Quick Start Guide for SifoScopes 4.05" for a step by step guide to installing your SifoScopes device in the network.

The login procedure is as follows:

Step 1 Activate your web browser on the administrative PC.

Your administrative PC must be able to access the network where SifoScopes is deployed in. If your PC is directly connected to SifoScopes via a cross-over cable, please ensure that your PC's IP address is within the same subnet as the IP address of SifoScopes' administrative interface.

Step 2 In the address bar, enter the IP address of SifoScopes' administrative port. (Example: http://192.168.1.1).

The default IP address of SifoScopes' Port2 interface is 192.168.1.1. Please refer to "3.2 Configuring Network Settings" for details on modifying the ports' IP address.

Step 3 A login dialog window will appear. Enter your user name and password in the respective textboxes.

The system default administrator account is "admin" with the password "admin". For security purposes, we recommend that you change the default administrator password at the initial login. For information on changing account password, please see "3.3 Managing Administrator Accounts".

Step 4 Click **[OK]** to login to the system.

2.2.2 System Logout

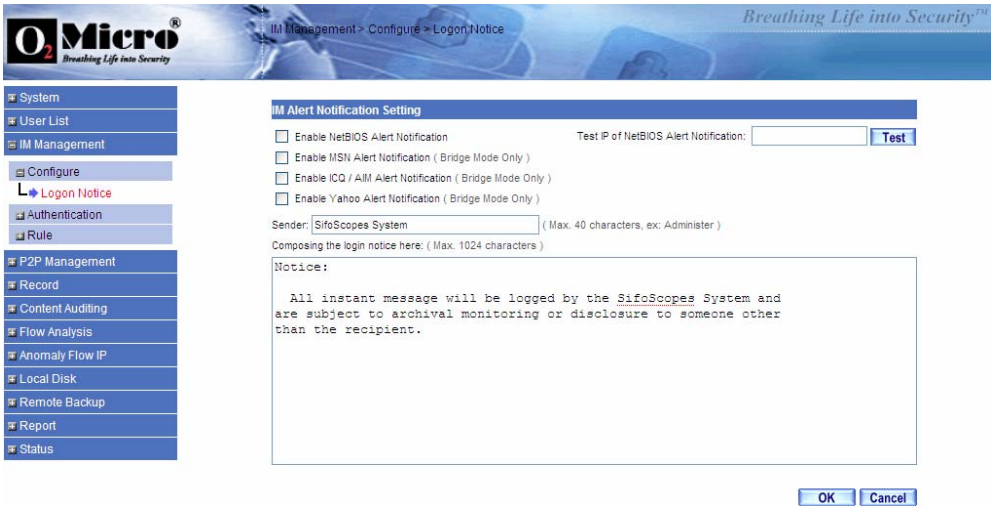
Log out of the SifoScopes system after completing configuration or monitoring activities enhances system and network security.

Step 1 Select **"System > Logout"** from the left menu bar. A confirmation prompt will be displayed.

Step 2 Click **[OK]** to confirm from the prompt window to confirm the logout operation. Note that you must close and re-activate the web browser if you wish to re-login to the system.

2.3 SifoScopes User Interface

Upon successful login, the SifoScopes administrative UI will be displayed.


O2Micro
Breathing Life into Security
IM Management > Configure > Logon Notice
Breathing Life into Security™
System
User List
IM Management
Configure
Logon Notice
Authentication
Rule
P2P Management
Record
Content Auditing
Flow Analysis
Anomaly Flow IP
Local Disk
Remote Backup
Report
Status
IM Alert Notification Setting
Enable NetBIOS Alert Notification
Test IP of NetBIOS Alert Notification:
Test
Enable MSN Alert Notification (Bridge Mode Only)
Enable ICQ / AIM Alert Notification (Bridge Mode Only)
Enable Yahoo Alert Notification (Bridge Mode Only)
Sender: SifoScopes System (Max. 40 characters, ex: Administer)
Composing the login notice here: (Max. 1024 characters)
Notice:
All instant message will be logged by the SifoScopes System and are subject to archival monitoring or disclosure to someone other than the recipient.
OK
Cancel

SifoScopes web UI includes 2 different areas:

- Menu Bar

  The leftmost column of this interface is the menu bar. You can navigate to the configuration/monitoring interfaces of the various system functions by selecting the corresponding menu options. The tables later in this section briefly explain each option.

- Operation Window

  The right frame of the web UI is the operation window where you can configure the system, monitor network activities etc. Detailed information regarding the various system functions can be found in the later chapters of this manual (Chapters “3 System Settings” to “9 System Maintenance”).

Module: System Sub Menu Options	Description
Admin	To manage the administrator accounts that can login to SifoScopes UI. This includes adding and deleting of accounts, modifying account access authority and password etc.
Interface IP	Here, you can modify the IP addresses of SifoScopes' ports, gateway, DNS servers etc.
Setting	Various system settings such as setting up email alert notifications, device deployment mode, export/import configuration files, web management port numbers, log storage time, system restore, format hard disk etc.
Date/Time	Configure to synchronize system date and time with local PC or an internet server.
Permitted IPs	Set up a list of IP addresses from which administrators are allowed to login to SifoScopes web UI. Login attempts from PCs with IP addresses not included in this list will be denied.
Language	Select the interface display language. Languages available include: English, Simplified Chinese and Traditional Chinese
Installation Wizard	Activate an installation wizard that guides you through the basic system configurations such as date/time, administrator accounts etc.
Logout	Logout from the system.
Software Update	Update the system firmware version.

Module: User List Sub Menu Options	Description
Setting	From this interface, you can import/export the list of users from/to the administrative PC and specify user group names.
Logged	Here you can add subnets to be monitored by SifoScopes and view a list of all users within the added subnets whose activities will be logged by the system. You can view logged user list according to the subnets or department/group users belong to.
Ignored	Here you can manage a list of all users within the monitored subnets whose activities are not logged by the system. You can view users according to the subnets or department/group they belong to.

Module: IM Management Sub Menu Options		Description
Configure	Logon Notice	Enable/Disable NetBIOS alert notification sent to the user when he login to his IM account. You can also send notification messages when he successfully logs-in to particular IM software including MSN, Yahoo and ICQ/AIM.
Authentication	Setting	Enter a message displayed to users accessing SifoScopes' IM authentication login screen.
	User	Manage user accounts that are allowed to access IM software. These users are authenticated locally by SifoScopes.
	RADIUS	Enable and set up a remote RADIUS server for user authentication.
	POP3	Enable and set up a remote POP3 server for user authentication.
	LDAP	Enable and set up a remote LDAP server for user authentication.
Rule	Default Rule	Set up IM access default rules to be applied on all authenticated IM users. You can also export/import IM user list from this interface.
	Account Rule	From this interface, you can assign specific IM access rules to users. If a user is assigned a specific account rule, the corresponding default rule will not be applicable to this user.

Module: P2P Management Sub Menu Options	Description
Default Rule	Set up P2P access default rules to be applied on all authenticated P2P users.
User Rule	From this interface, you can assign specific P2P access rules to users. If a user is assigned a specific account rule, the corresponding default rule will not be applicable to this user.

Module: Record Sub Menu Options		Description
Setting	Setting	Here, configure the basic settings for recording of user web activities including updating the Web Mail, IM and P2P signature database; user name binding option; plugins; record activities for which services; whether to record LAN to LAN traffic; number of records to display per page in the UI; mail reports; character encoding for stored data; whether to store entire http pages etc.
User	Logged	View the records of all activities for each user individually.
Service	SMTP	View records of all mail activities by users via the SMTP service.
	POP3/IMAP	View records of all mail activities by users via the POP3/IMAP service.
	HTTP	View records of all webpage browsing activities by users via the HTTP service.
	IM	View records of all IM access by users.
	Web SMTP	View records of all web mail activities by users via the Web SMTP service.
	Web POP3	View records of all web mail activities by users via the Web POP3 service.
	FTP	View records of all file transfer events by users via the FTP service.
	Telnet	View records of all users' telnet activities.

Module: Content Auditing Sub Menu Options	Description
Setting	Set up SifoScopes to send logs collected from the previous 1 day via email at 0:30 daily. Only logs matching the specified criteria will be sent to the corresponding recipient.

Module: Flow Analysis Sub Menu Options	Description
Today Top-10	View user, department/group and service Top-10 ranking charts for traffic flow generated within any time interval between 0:00 on the current day to the current time.
History Top-N	View the Top N user, department/group, or service charts for traffic flow generated during the specified time interval.
Flow Statistics	View traffic flow graphs for the past 1 day, hour or 5 minutes to analyse changes to network traffic during a particular time period.

Note: The “Flow Analysis” function is only available for SifoScopes CM2000 and SifoScopes CM3000. All other models do not support this function.

Module: Anomaly Flow IP Sub Menu Options	Description
Setting	Configure anomaly flow detection settings including whether to enable anomaly flow IP blocking, enable co-defense systems etc. You can also set up a list of IP addresses that will not be checked for anomaly flow here.
Virus-Infected IP	List of blocked internal IP addresses suspected to be virus-infected.
Intrusion IP	List of blocked external IP addresses suspected to be initiating DoS/DDoS intrusion attacks on the internal network.

Module: Local Disk Sub Menu Options	Description
Storage Time	Manage the number of days to store logs for each type of service.
Disk Space	This interface allows you to view the amount of disk space used by specific users or department/group for each service type.

Module: Remote Backup Sub Menu Options		Description
Setting	Backup Setting	Here, configure whether to enable and set up the system to periodically backup logged information in its hard disk to a remote disk, view hard disk utilization and enable email notification for backup operations.
	Browse Setting	Select whether to enable administrators to browse backup information on the remote disk from SifoScopes' web UI directly.
Browse	SMTP	Browse logged records of all SMTP activities stored on the remote backup disk.
	POP3/IMAP	Browse logged records of all POP3/IMAP activities stored on the remote backup disk.
	HTTP	Browse logged records of all HTTP activities stored on the remote backup disk.
	IM	Browse logged records of all IM activities stored on the remote backup disk.
	Web SMTP	Browse logged records of all Web SMTP activities stored on the remote backup disk.
	Web POP3	Browse logged records of all Web POP3 activities stored on the remote backup disk.
	FTP	Browse logged records of all FTP activities stored on the remote backup disk.
	Telnet	Browse logged records of all Telnet activities stored on the remote backup disk.

Module: Report Sub Menu Options	Description
Setting	Configure the system to generate and send (via email) reports periodically. You can also generate and send a report containing history data from a particular time range here.
Traffic Report	Reports containing bar charts for different types of protocols (TCP, UDP, and ICMP) showing the traffic generated using these protocols in the network.
Storage Report	Chart-based report on system disk storage utilization for each service type.

Module: Status Sub Menu Options	Description
System Info	View various system information including system uptime and resource utilization etc.
Current Session	Lists all currently established user sessions that are being monitored by SifoScopes.
IM/P2P Log	Log of all user IM/P2P accesses.
Event Log	Log list recording all system and administrator events over the system.

2.4 Task List

The table below contains a list of possible tasks an administrator may need to perform when configuring the system or monitoring network activities via SifoScopes.

Task Type: System Settings

Task Name	Carried Out When…	Reference
Configuring Network Settings	You need to set up network related configurations including system work mode, interface address etc. to connect the system to the network.	3.2
Managing Administrator Accounts	You want to add, modify or delete administrator accounts.	3.3
Configuring Basic System Parameters	You need to set up email notifications, web management port numbers, log storage time, and synchronize system date and time etc.	3.4
Import/Export System Configuration File	You need to export the current system's configurations into a file or restore the system's settings by importing a previously backup configuration file.	3.5
Update System Software	You want to update the system software.	3.6

Task Type: Network Activity Analysis

Task Name	Carried Out When…	Reference
Managing Logged and Ignored User List	You need to manage the user department/groups, assign users to be monitored to the logged list or assign users that will not be monitored to the ignored list.	4.2
Set Up Record Attributes	You want to update the system's Web Mail, IM and P2P software signature database, select user name binding option, download plugins, enable recording of LAN to LAN activity, select the services to record, specify the number of list items to display per UI page, select the character encoding used to store data, whether to store entire web pages, mail reports, etc.	4.3
View Records By User	You want to view and analyse network activity records for each user	4.4
View Records By Service	You want to view and analyse network activity for each service type	4.5
Set up Content Audit	You want to set up the system to send records, from the previous 1 day, fulfilling specific criteria at 0:30 daily.	4.6

Task Type: IM/P2P Software Access Control

Task Name	Carried Out When…	Reference
Managing IM Access	You need to manage user accesses to popular IM software such as MSN, Yahoo Messenger etc.	5.2
Managing P2P Usage	You need to control file transfer over commonly used P2P programs such as eDonkey, Bit Torrent etc.	5.3

Task Type: Real-time Flow Analysis

Task Name	Carried Out When…	Reference
Viewing Top 10 Charts for Today's Network Activities	You want to view the top 10 users, groups and services ranked according to the amount of traffic generated within any time interval between 0:00 today till the current time.	6.2
Viewing History Top N Charts	You want to view top N charts of users, groups or services ranked based on traffic flow during any time interval.	6.3
Flow Statistics	You want to view graphs of traffic flow for the past 1 day, 1 hour or 5 minutes to analyse changes to network traffic.	6.4

Task Type: Anomaly Flow Detection

Task Name	Carried Out When…	Reference
Activate Anomaly Flow Detection	You need to enable SifoScopes to detect anomaly traffic from suspicious IP addresses.	7.2
Monitor Detected Suspicious IP	You want to view the list of blocked virus/intrusion IP addresses.	7.3

Task Type: Backup Remote Management

Task Name	Carried Out When…	Reference
Configuring Remote Backup	You want to enable the remote backup function to backup data to a remote NAS (Network Attached Storage) or file server.	8.2
Browsing Backup Data	You want to view previously backup history data from the remote server.	8.3

Task Type: System Maintenance

Task Name	Carried Out When…	Reference
Managing Local Disk Storage	You want to view the utilization of the local hard disk and modify the storage period for records for each type of service.	9.2
Viewing Statistical Reports	You need to view or email statistical reports on local disk storage utilization and network traffic.	9.3
Checking System Status	You need to check system's performance, view established sessions and event logs.	9.4
Restore System Data	You need to restore system configuration to factory default setting, format system hard disk, or check and repair the system's database.	9.5

Chapter

3

System Settings

The following sections can be found in this chapter:

- Overview

  Briefly introduces the various functions included when setting up the system.

- Configuring Network Settings

  Details the configuration of various network parameters to connect SifoScopes to your network.

- Managing Administrator Accounts

  Explains the management of SifoScopes administrator accounts and the various levels of access authority that can be assigned to each account.

- Configuring Basic System Parameters

  Details the configuration of basic system parameters.

- Import/Export System Configuration File

  Explains how to import/export system configuration files to/from SifoScopes.

- Update System Software

  Describes the update procedure to update your device's software version.

You should refer to this chapter when you want to perform operations related to configuration of various system settings.

3.1 Overview

This series of operations allow you to set up SifoScopes such that it is connected and operates normally in the network. The operations include: network settings configuration, administrator account management, configuration file import/export, software update etc.

3.2 Configuring Network Settings

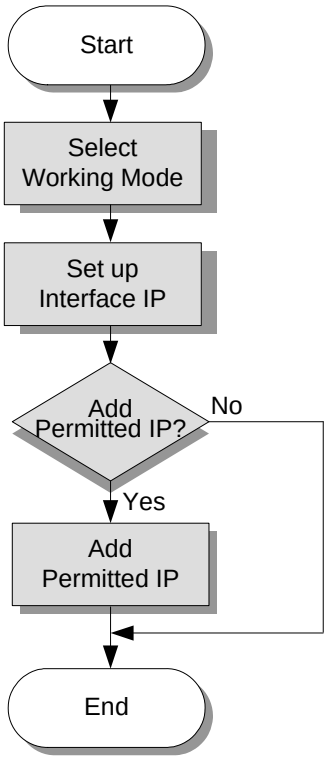
Through this function, you specify various SifoScopes network parameters such as working mode, interface IP address etc., ensuring that the system connects to the network correctly.

Depending on the deployment of SifoScopes in the network, the system can operate in one of two modes: Bridge mode and Sniffer mode. For more information on each mode, please refer to “2.1 SifoScopes Deployment Topology”.

SifoScopes also supports VLAN networks. Please specify the VLAN ID for the corresponding interface when configuring the system.

To further enhance the system’s security, you can also restrict the IP addresses that are allowed to login to SifoScopes. Administrative PCs using an IP not included in this list of addresses will not be able to login to the system. To enable this function, first add the administrative IP(s). Next, disable “Ping”, “HTTP” and “HTTPS” from the **“System > Interface IP”** configuration page.

Configuration Flowchart

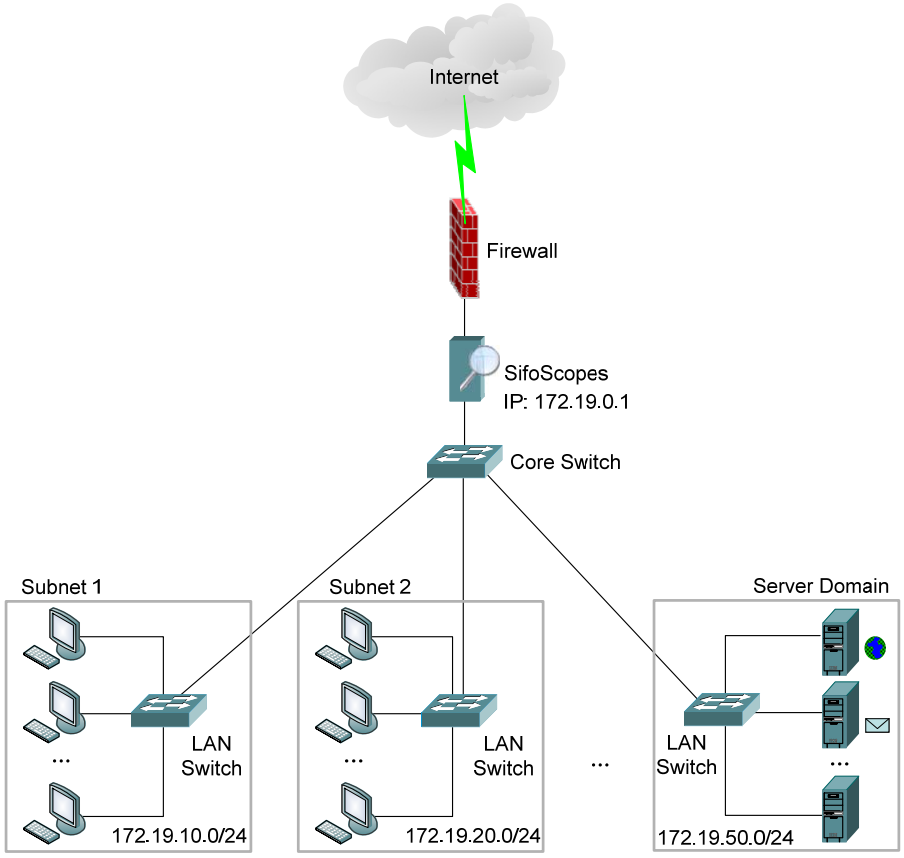


Each operation in the flowchart above is explained in the table below.

Operation	Explanation
Select Working Mode	Depending on the deployment of SifoScopes in your network, select whether the system operates in Bridge or Sniffer mode.
Set up Interface IP	Set up the various interface settings including IP address, default gateway IP, DNS server IP, upload/download bandwidth, and whether to enable Ping, HTTP and HTTPS services. If Ping is enabled, administrators will be able to execute the Ping command on this interface's IP address. If HTTP, HTTPS is enabled, administrators will be able to access the UI via either the HTTP or HTTPS protocol. Please specify a VLAN ID for this interface if SifoScopes is connected to a VLAN.
Add Permitted IP	Restrict the PCs that are allowed to login to SifoScopes' UI by adding permitted IP addresses. For this restriction to be effective, ensure that you disable the Ping, HTTP and HTTPS options in **"System > Interface IP"** after adding permitted IP(s).

Example 1 (Bridge Mode)

The company wants to deploy SifoScopes under bridge mode in the network topology shown below.



A system administrator collects the following necessary configuration data.

- IP address: 172.19.0.1
- Netmask: 255.255.255.0
- Default gateway: 172.19.1.254
- DNS Server 1: 168.95.1.1
- DNS Server 2: 172.19.1.254
- Bandwidth: unlimited
- Ping, HTTP, HTTPS enabled
- Permitted IP: no restriction

The configuration procedure is as follows:

Step 1 Login to SifoScopes via the “admin” account.

Step 2 Select working mode

1. From the left menu bar, select **"System > Setting"**.
2. From the interface displayed, scroll to the "Deployment Mode" area. Select the **Bridge Mode** option.
3. Click **[OK]** from the bottom of this interface to save the setting.

Step 3 Set up interface IP

1. Select **"System > Interface IP"** from the left menu bar.
2. On this interface, configure as follows:

   IP Address: 172.19.0.1

   Netmask: 255.255.255.0

   Default Gateway: 172.19.1.254

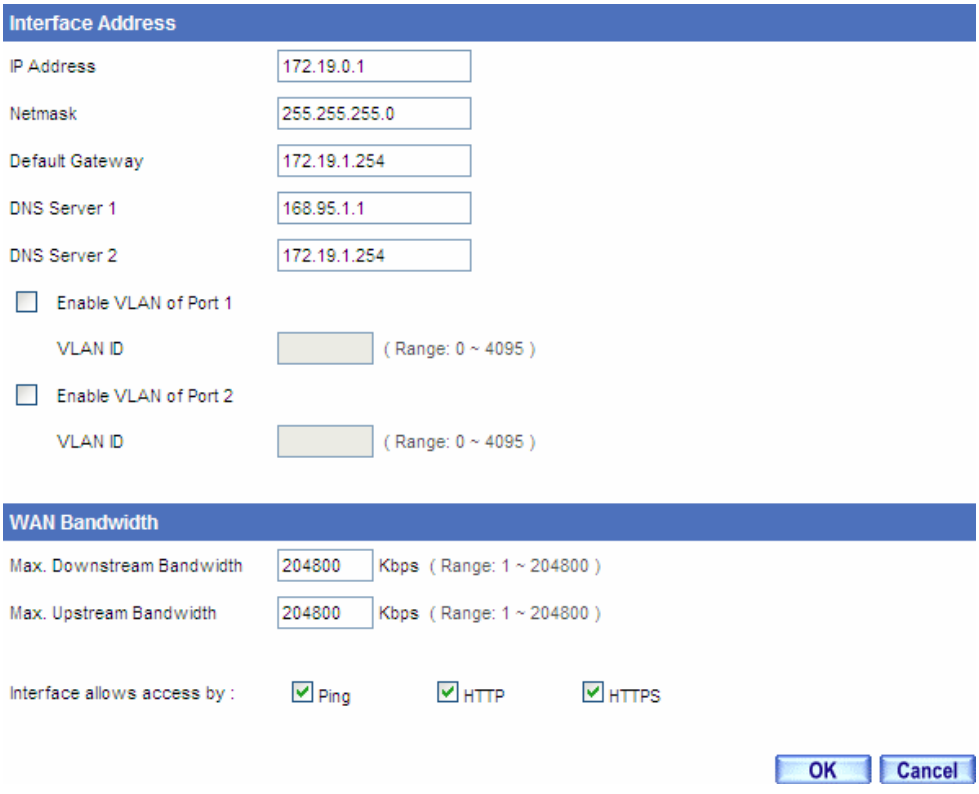
   DNS Server 1: 168.95.1.1

   DNS Server 2: 172.19.1.254

   Max. Downstream Bandwidth: 204800

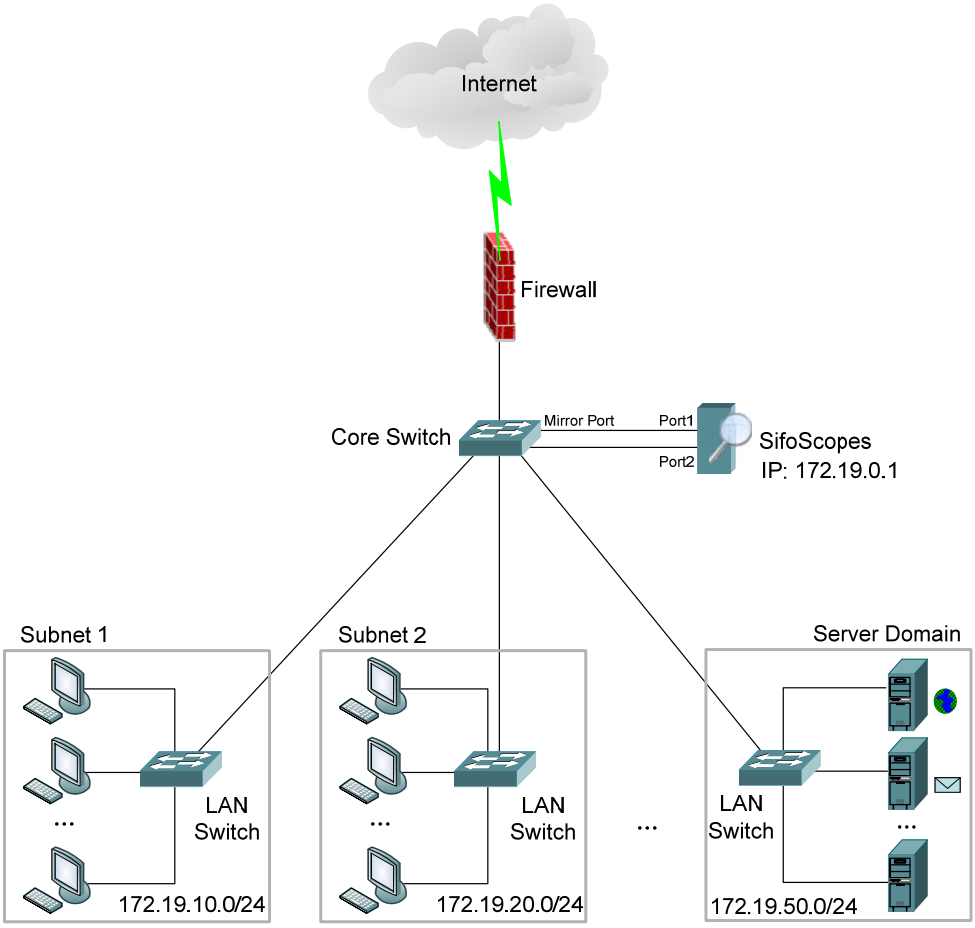
   Max. Upstream Bandwidth: 204800

3. Check the checkboxes to enable the Ping, HTTP and HTTPS services.
4. Click **[OK]** to save the configurations.



Example 2 (Sniffer Mode)

The company wants to deploy SifoScopes under sniffer mode in the network topology shown below.



A system administrator collects the following configuration data used to set up the system's various network parameters.

- IP address: 172.19.0.1
- Netmask: 255.255.255.0
- Default gateway: 172.19.1.254
- DNS Server 1: 168.95.1.1
- DNS Server 2: 172.19.1.254
- Bandwidth: unlimited
- Ping, HTTP, HTTPS disabled
- Permitted IPs: 172.19.10.10, 172.19.20.10 with Ping, HTTP and HTTPS services enabled

The configuration procedure is as follows:

Step 1 Login to SifoScopes UI via the "admin" account.

Step 2 Specify working mode

1. Select, from the left menu bar, **"System > Setting"**.
2. Scroll to the "Deployment Mode" area in the displayed interface and select **Sniffer Mode**.
3. Click **[OK]** to save the setting.

Step 3 Specify interface IP

⚠ Warning

Do not disable Ping, HTTP and HTTPS during this step or you will no longer be allowed to login to SifoScopes' UI via the network interface. You should only disable these services from this interface after completing Step 4 below.

---

1. From the left menu bar, select **"System > Interface IP"**.
2. Here, configure as follows:

   IP Address: 172.19.0.1

   Netmask: 255.255.255.0

   Default Gateway: 172.19.1.254

   DNS Server 1: 168.95.1.1

   DNS Server 2: 172.19.1.254

3. Click **[OK]** to save the settings.

Step 4 Adding permitted IPs

1. From the left menu bar, select **"System > Permitted IPs"**.
2. A list of permitted IP addresses allowed to login to SifoScopes UI is displayed. From the bottom of the list, click **[New Entry]**.
3. In the "Add New Permitted IPs" interface, enter the following:

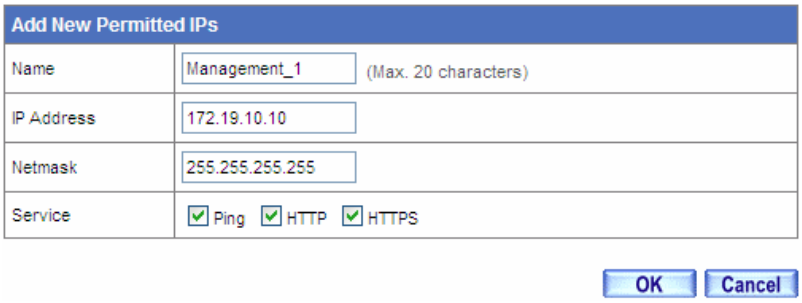
   Name: Management_1

   IP Address: 172.19.10.10

   Netmask: 255.255.255.255

   Service: Check the checkboxes to enable "Ping", "HTTP" and "HTTPS"

4. Click **[OK]** to save the new permitted IP.



5. Repeat (2) to (4) to add another permitted IP (“172.19.20.20”).

Step 5 Disable Ping, HTTP, HTTPS services from the **“System > Interface IP”** configuration page.

1. Select **“System > Interface IP”** from the left menu bar.
2. Uncheck the “Ping”, “HTTP” and “HTTPS” checkboxes to disable these services.
3. Click **[OK]** to save the configuration.

Reference

The configuration steps in **“System > Install Wizard”** interface also includes certain system settings (including network settings).

Recommendations

After completing the system’s network settings, we recommend that you record the configuration information or export this configuration into a locally stored file. For details on exporting system configuration files, please refer to “3.5 Import/Export System Configuration File”.

3.3 Managing Administrator Accounts

This function allows you to add, delete and modify the administrator accounts via the SifoScopes administrative UI.

SifoScopes default administrator account is “admin” with password “admin”. This account is allowed to access the entire system and cannot be deleted.

Each account can be assigned with one of two types of access authority:

- Read/Write

  An administrator account is assigned with Read/Write access if the **Write Access** option is selected for the account. These administrators can access all system functions (except for administrator account management), view and modify system configurations.

- Read-only

  An administrator account is assigned with Read-only access if the **Write Access** option is not selected for the account. These administrators are not allowed to modify any system settings.

📖 Note:

Only the default administrator (“admin”) is allowed to manage administrator accounts.

To facilitate monitoring of network users, the system allows you to categorize users using up to 12 groups (departments). When adding an administrator account, you must select the groups that can be monitored by this administrator. An administrator can only view the records collected from users belonging to the groups that have been assigned to this administrator.

Example

The system default administrator wants to add a new administrator account for Blake, with the account name “BlakeIT”, password “12345678”. This account is assigned with read/write authority and can monitor users belonging to groups 1, 2 and 3.

The configuration procedure is as follows:

Step 1 Login to SifoScopes administrative UI via the “admin” account.

Step 2 From the left menu bar, select **“System > Admin”**.

Step 3 Click **[New Group-Admin]** from the bottom of the displayed list.

Step 4 Specify administrator account information as follows:

Group-Admin name: BlakeIT

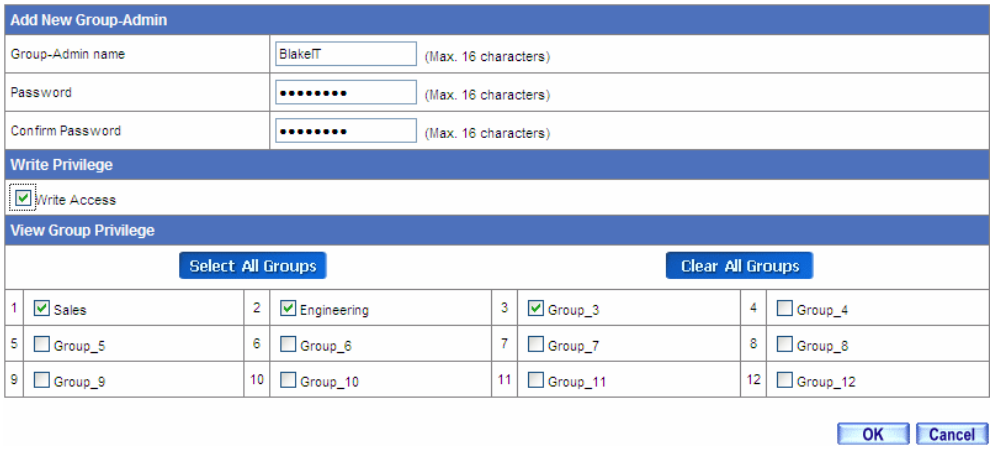
Password: 12345678

Confirm Password: 12345678

Step 5 Check the **Write Access** checkbox.

Step 6 Check the checkboxes corresponding to groups “1”, “2” and “3”.

Step 7 The above configuration is illustrated in the figure below. Click **[OK]** to save the new administrator account.



Reference

Please refer to "4 Network Activity Analysis" for details on user groups and browsing of user records.

The system also supports a mechanism that tracks the number of login failures for each administrator, locking accounts that failed to login successfully after a certain number of times for a specified time period. To set up this function, please configure the **After _ time(s) of unsuccessful logon attempt(s), block the IP address for _ minute(s)** field at the "Web Management (Port Number)" area of the **"System > Setting"** interface. For more details, please refer to "3.4 Configuring Basic System Parameters"

Recommendations

We recommend that only a limited number of administrator accounts are assigned with write access. Also, ensure that account passwords are modified periodically. This will enhance the security and stability of the system.

3.4 Configuring Basic System Parameters

Basic system parameters include configuring email alert notification, web management port numbers, log storage time, system date/time etc.

Configuration Procedure

Step 1 Login to SifoScopes UI via a read/write administrator account.

Step 2 Select **"System > Setting"** from the left menu bar.

Step 3 In this interface, set up the parameters accordingly.

Step 4 Click **[OK]** to save the system settings.

Step 5 From the left menu bar, select **"System > Date/Time"**.

Step 6 Select to **Enable synchronize with an Internet time Server** and configure the parameters accordingly.

Step 7 Click **[OK]** to save the date/time settings.

Reference

The various parameters that you may need to configure during the above procedure are explained in the tables below.

"System > Setting" interface "E-mail Settings"

Parameter Name	Explanation	Configuration
Company Name	Name of the company where SifoScopes is deployed	[How to Configure] Enter the value in the textbox [Range] Up to 32 characters
Device Name	Name of the SifoScopes device	[How to Configure] Enter the value in the textbox [Range] Up to 30 characters
Sender Address	Sender address for all notification emails sent by the system	[How to Configure] Enter the email in the textbox [Range] Up to 60 characters
SMTP Server	Domain name or IP address of the SMTP server used to send the notification emails	[How to Configure] Enter the value in the textbox [Range] Up to 80 characters [Example] mail.mydomain.com
E-mail Address 1 / E-mail Address 2	Email address(es) of the recipient(s) of notification mails	[How to Configure] Enter the value in the textbox [Range] Up to 60 characters

Parameter Name	Explanation	Configuration
Username	You must **Enable SMTP Server Authentication** if • you want to check the validity of the recipient email addresses (email address 1 / email address 2) • or if the SMTP server requires SifoScopes to be authenticated before it is allowed to send mails. This is the username used to authenticate the system with the SMTP server	[How to Configure] Enter the value in the textbox
Password	Corresponding password to authenticate SifoScopes with the SMTP server	[How to Configure] Enter the value in the textbox

"System > Setting" interface "Web Management (Port Number)"

Parameter Name	Explanation	Configuration
HTTP Port	Port number used to login to SifoScopes UI via the HTTP protocol	[How to Configure] Enter the value in the textbox [Default] 80
HTTPS Port	Port number used to login to SifoScopes UI via the HTTPS protocol	[How to Configure] Enter the value in the textbox [Default] 443
After *X* time(s) of unsuccessful logon attempt(s), block the IP address for *Y* minute(s)	Specify the maximum number of consecutive login failures for each administrator (X). When an administrator fails to login to the system after this number of tries, his IP address will be blocked for a specific period of time (Y). This function is disabled by default (default value "0").	[How to Configure] Enter the values in the textboxes [Default] 0 time, 0 minute

"System > Setting" interface "Log Storage Time"

Parameter Name	Explanation	Configuration
Storage Time	Number of days to store logs. All logs older than this value will be deleted from the system	[How to Configure] Enter the value in the textbox [Range] 1 - 999 [Default] 14

"System > Date/Time" interface

Parameter Name	Explanation	Configuration
Enable synchronize with an Internet time Server	Synchronize SifoScopes' date and time with the specified internet server	[How to Configure] Check the checkbox to enable
Use Daylight Saving Time	Select this option if the device is located in a region that follows daylight saving. When selected, the device time will be shifted forward by 1 hour during the time period when daylight saving is in effect	[How to Configure] Check the checkbox to enable
From / ... To /	Specify the time period during which daylight saving is in effect	[How to Configure] Select the starting time (**From**) and ending time (**To**) from the drop down menu in the format MM/DD
Server IP / Name	IP address or domain name of the Internet time server to synchronize with	[How to Configure] Enter the value in the textbox
Update system clock every *X* minutes	Time interval between each synchronization of system date/time with the Internet time server	[How to Configure] Enter the value in the textbox [Range] 0 – 99999

3.5 Import/Export System Configuration File

You can export SifoScopes current configurations into a file for backup purposes, allowing you to restore these configurations in the future simply by importing the file.

Configuration Procedure

Step 1 Login to SifoScopes UI via a read/write administrator account.

Step 2 From the left menu bar, select **"System > Setting"**. From the "SifoScopes System Configuration" area at the top of this interface, you can:

- Export current system configurations
  - Click **[Export]**.
  - Specify the file name and directory path to store the configuration file to.
- Import a previous backup configuration file into the system
  - Click **[Browse...]**.
  - Select the configuration file to be uploaded.

Recommendations

We recommend that you export system configurations for backup purposes periodically or before performing any major changes to system settings. This allows you to restore the system to a stable state easily should abnormalities occur.

3.6 Update System Software

This function allows you to upgrade your system's software version.

Configuration Procedure

⚠ Warning:

Please do not perform any other operations on SifoScopes, disconnect the device's power source or shutdown the device during the update process.

Step 1 Login to SifoScopes UI via a read/write account.

Step 2 From the left menu bar, select **"System > Software Update"**.

Step 3 Click **[Browse...]** to select the update patch file. Click **[OK]** to begin the update. The update process takes approximately 3 minutes. The device will automatically reboot once the update completes.

Recommendations

We recommend that administrators perform the update system software version operation using a workstation located in the internal network. This prevents update failures due to network disconnection.

Chapter

4

Network Activity Analysis

This chapter includes the following sections:

- Overview

  Briefly explains the network activity record analysis function and related concepts.

- Managing the Logged / Ignored User Lists

  Introduces, in detail, how to define user groups/departments, and set up the lists of users whose activities should be logged/ ignored by the system.

- Configuring Access Record Attributes

  Explains the procedure to set up the system to automatically update its Webmail/IM/P2P signature database and various other record attributes such as whether to record activities from internal sources to internal destinations, which services are to be recorded, HTTP web page storage, character encoding etc.

- Viewing Access Records According to Users

  Describes how to view and analyse access records based on users.

- Viewing Access Records According to Service Type

  Describes how to view and analyse access records for each service type.

- Set Up Content Audit

  Introduces the system content audit function and the procedure to set up the system to search, at 0:30 daily, for records satisfying certain criteria from the previous 1 day, sending these records to the specified recipients.

Network/department administrators can refer to this chapter when they need to monitor the network activities of employees.

4.1 Overview

Record and analysis of network activities is a core function of the SifoScopes system. You must define the logged and ignored user lists and configure record attributes to set up this function. You can then view and analyse network activity records based on user or service type. The system also allows you to send specific records to various personnel for audit purposes.

- User

  To be specific, these refer to the PCs used by internal employees that can be monitored by SifoScopes. Generally, each employee is assigned a fix PC to work with. Hence, the term “User” can also refer to the employee who uses a monitored PC.

- Group

  These are user groups defined in the system to facilitate management. Multiple users can be assigned to each group but each user can only belong to one group. You can define up to 128 groups.

  Each SifoScopes administrator can only view and monitor the records of users belonging to the groups that are assigned to his account. Records of all other users will not be available. For details on assigning administrator access authority, please refer to “3.3 Managing Administrator Accounts”.

  Sections “4.4 Viewing Access Records According to Users” and “4.5 Viewing Access Records According to Service Type” below explain how to view user activity records.

- Logged List

  This is a list of all users whose activities are to be monitored by SifoScopes. The system displays network activities generated by these users only.

  By default, the system adds all newly added/detected users into the logged list.

- Ignored List

  This is a list of all users whose activities will not be monitored by SifoScopes. You will not be able to view records of activities generated by these users from SifoScopes.

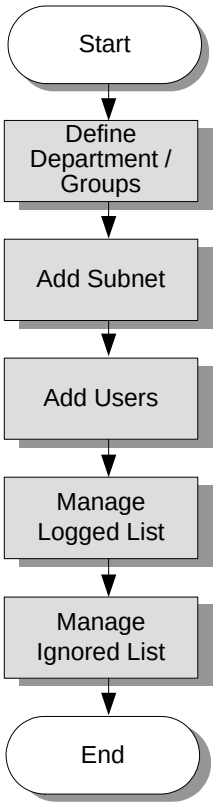
4.2 Managing the Logged / Ignored User Lists

Using this function, you can set up department/groups, assign users to their respective groups and specify which users are to be monitored and which users are to be ignored by the system.

Note:

In the **"Record > Setting > Setting"** interface, if the "AD Server" option is used to bind user names and the various parameters of the AD server has been configured, SifoScopes automatically disables searching and management of logged user list based on subnet addresses. Administrators will also not be able to manage the logged user list. The user list will be automatically retrieved from the AD server or from the PC running the plugin (CM_Plugin.exe) downloaded from the **"Record > Setting > Setting"** interface.

Configuration Flowchart



The table below explains the operations in the above flowchart.

Operation	Explanation
Define Department / Groups	Enter the names of the departments/groups to categorize users into
Add Subnet	Add the subnets that are to be monitored by SifoScopes. You can skip this step if you have already added all subnets via the **"System > Installation Wizard"** interface.
Add Users	Add users by importing a .csv file or via the search function.
Manage Logged List	Newly added users will be assigned to the logged list by default. This operation allows you to modify various user attributes (such as user group etc.) from this list or delete users from the list.
Manage Ignored List	Move all users that need not be monitored by SifoScopes from the logged list to the ignored list or directly delete the user from the lists.

Example 1 (Add Users via the Search Function)

The company's organization structure and network topology are as follows:

- Operations department

  Users in this department are located in the subnet 172.19.10.0/255.255.255.0. All users in this subnet (except for 172.19.10.10) must be monitored by SifoScopes.

- Research department

  Users in this department are located in the subnet 172.19.20.0/255.255.255.0. All users in this subnet (except for 172.19.20.10) must be monitored by SifoScopes.

- Production department

  Users in this department are located in the subnet 172.19.30.0/255.255.255.0. All users in this subnet (except for 172.19.30.10) must be monitored by SifoScopes.

- Management department

  Users in this department are located in the subnet 172.19.40.0/255.255.255.0. The users within the address range 172.19.40.1 – 172.19.40.10 need not be monitored by SifoScopes. The system should monitor all other users in this subnet.

A system administrator using the default administrator account "admin" needs to set up the system according to the above requirements.

The configuration procedure is as follows:

Step 1 Login to SifoScopes UI via the "admin" account.

Step 2 Define groups

1. From the left menu bar, select **"User List > Setting"**.
2. In the "Department / Group" area of the interface displayed, enter the following department names:

   1: Operations

   2: Research

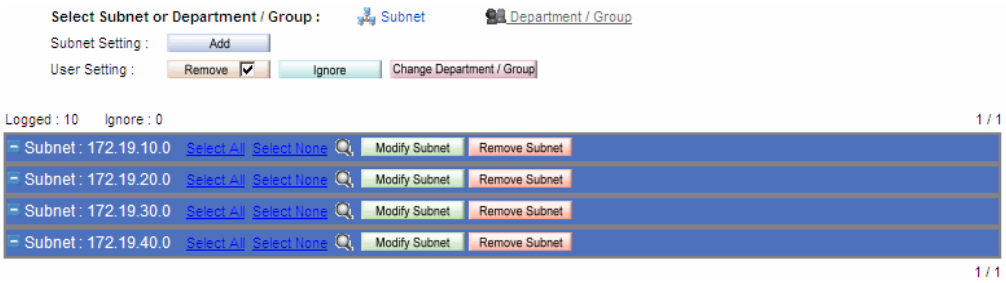
   3: Production

   4: Management

3. Click **[OK]** to save the settings. A success message should be displayed.

Step 3 Add subnets

1. Select **"User List > Logged"** from the left menu bar.
2. Click the **[Add]** button next to the **Subnet Setting** heading.
3. Enter the **Subnet** address "172.19.10.0" and **Netmask** "255.255.255.0". Select to add new users detected in this subnet to the **Group** "Operations".
4. Click **[OK]** to save the new subnet.
5. Repeat (2) to (4) to add the remaining 3 subnets (172.19.20.0/24, 172.19.30.0/24, and 172.19.40.0/24). The figure below shows the logged list after adding the 4 subnets.


Select Subnet or Department / Group :
Subnet
Department / Group
Subnet Setting :
Add
User Setting :
Remove
Ignore
Change Department / Group
Logged : 10
Ignore : 0
1 / 1
Subnet : 172.19.10.0 Select All Select None Modify Subnet Remove Subnet
Subnet : 172.19.20.0 Select All Select None Modify Subnet Remove Subnet
Subnet : 172.19.30.0 Select All Select None Modify Subnet Remove Subnet
Subnet : 172.19.40.0 Select All Select None Modify Subnet Remove Subnet
1 / 1

Step 4 Add users

1. From the logged list (**"User List > Logged"**), click the icon corresponding to the "Subnet: 172.19.10.0" row in the list. A new window will appear and the system will automatically begin to search for users located in the 172.19.10.0 subnet.
2. Wait 1-2 minutes for the search to complete. All users found will be listed in the new window. Check the checkboxes for all detected users.

Note:

By default, the system searches all IP addresses in the specified subnet. You can specify to only search for users within a specific range of IP (belonging to this subnet) in the window that appears.

3. Click **[New User]**. Return to the logged list to view all added users in this subnet.
4. Repeat (1) to (3) to search for and add users for the remaining three subnets.

Step 5 Manage logged list

Check the list of users in the logged list (**"User List > Logged"**). From this list, you can:

- Click on a user in the list to modify the user's attributes such as group information.
- Delete a user by checking the checkbox next to the user name and clicking the **[Remove]** button above the list. For example, you may want to delete a detected IP address if it corresponds to a server and not an actual user.

Step 6 Manage ignored list

1. From the logged list (**"User List > Logged"**), click the icon corresponding to the "Subnet: 172.19.10.0" row. The interface will refresh to display all users located in this subnet detected by SifoScopes.
2. Check the checkbox corresponding to the user "172.19.10.10". Click the **[Ignore]** button from the top of the list. This will move the user to the ignored list.
3. Repeat (1) and (2) to move the users "172.19.20.10", "172.19.30.10", and "172.19.40.1" – "172.19.40.10" to the ignored list.

Note:

You can view the ignored list by selecting **"User List > Ignored"** from the left menu bar.

Example 2 (Importing Users using an Excel File)

The company's organization structure and network topology are as follows:

- Operations department

  Users in this department are located in the subnet 172.19.10.0/25 5.255.255.0. Network activities of the user 172.19.10.10 will not b e logged by SifoScopes. All other users within the IP range 172.19. 10.1 – 172.19.10.20 will be monitored.

- Research department

  Users in this department are located in the subnet 172.19.20.0/25 5.255.255.0. Network activities of the user 172.19.20.10 will not b e logged by SifoScopes. All other users within the IP range 172.19. 20.1 – 172.19.20.20 will be monitored.

- Production department

  Users in this department are located in the subnet 172.19.30.0/25 5.255.255.0. Other than user 172.19.30.10, all users within the IP range 172.19.30.1 – 172.19.30.30 will be monitored.

- Management department

  Users in this department are located in the subnet 172.19.40.0/25 5.255.255.0. The users within the address range 172.19.40.1 – 17 2.19.40.10 need not be monitored by SifoScopes. All users in the I P range 172.19.40.11 – 172.19.40.20 will be monitored.

A system administrator using the default administrator account "admin" needs to set up the system according to the above requirements.

The configuration procedure is as follows:

Step 1 Login to SifoScopes UI via the "admin" account.

📖 Note:

Completing steps 2 to 4 below simplifies the creation of the Excel file. You may skip these steps and directly create the Excel file if you are familiar with the format requirements. For more information on the Excel file format, please refer to "Reference" section below.

Step 2 Define groups

1. From the left menu, select **"User List > Setting"**.
2. In the "Department / Group" area of the interface displayed, enter the following department names:

   1: Operations

   2: Research

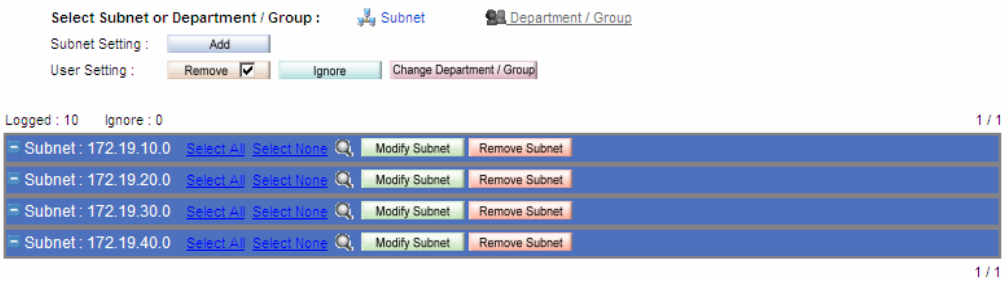
   3: Production

   4: Management

3. Click **[OK]** to save the settings. A success message should be displayed.

Step 3 Add subnet

1. From the left menu bar, select **"User List > Logged"**.
2. Click the **[Add]** button from the top of this interface.
3. Enter the **Subnet** address "172.19.10.0" and **Netmask** "255.255.255.0". Select to add new users detected in this subnet to the **Group** "Operations".
4. Click **[OK]** to save the new subnet.
5. Repeat (2) to (4) to add the remaining 3 subnets (172.19.20.0/24, 172.19.30.0/24, and 172.19.40.0/24).



Step 4 Export user list into an Excel file.

1. Select **"User List > Setting"** from the left menu bar.
2. At the top of this interface, click **[Download]**. Select to save the file ("user_set.csv") to your local PC.

Step 5 Modify the .csv file

1. Double-click the downloaded file to open. You can also activate the Excel application and open the file. Note that all rows beginning with the character "#" represent comments.

2. Add the following lines below the “172.19.10.0” row.

```
172.19.10.1   *   *   3    00:05:5D:11:4A:60    1    *
172.19.10.2   *   *   3    00:80:C8:EF:4E:27    1    *
172.19.10.3   *   *   3    00:13:D4:C2:8C:7D    1    *
172.19.10.4   *   *   3    00:0C:29:5B:3C:35    1    *
172.19.10.5   *   *   3    00:90:FB:09:F3:D2    1    *
172.19.10.6   *   *   3    00:07:E9:19:CB:21    1    *
172.19.10.7   *   *   3    00:13:D4:00:C5:A3    1    *
172.19.10.8   *   *   3    00:90:FB:0B:D5:C0    1    *
172.19.10.9   *   *   3    00:12:97:01:59:1C    1    *
172.19.10.10  *   *   0    00:12:97:01:58:8C    1    *
172.19.10.11  *   *   3    00:0C:29:40:B8:86    1    *
172.19.10.12  *   *   3    00:13:D4:25:01:BB    1    *
172.19.10.13  *   *   3    00:90:FB:09:F3:D2    1    *
172.19.10.14  *   *   3    00:30:18:A3:7C:B8    1    *
172.19.10.15  *   *   3    00:0C:29:AB:75:57    1    *
172.19.10.16  *   *   3    00:0C:29:B8:B3:59    1    *
172.19.10.17  *   *   3    00:11:43:CE:51:50    1    *
172.19.10.18  *   *   3    00:90:0B:09:8C:36    1    *
172.19.10.19  *   *   3    00:0C:29:D7:BB:96    1    *
172.19.10.20  *   *   3    00:12:97:00:19:43    1    *
```

📖 Note:

The MAC addresses above are examples. When modifying the file, please enter the actual MAC addresses.

All columns showing “*” represent that the corresponding attribute value is null. You can enter the actual value if you have access to the corresponding information.

3. Add the following below the “172.19.20.0” row.

```
172.19.20.1   *   *   3    00:05:5A:11:4A:60    2    *
172.19.20.2   *   *   3    00:80:CB:EF:4E:27    2    *
172.19.20.3   *   *   3    00:13:DC:C2:8C:7D    2    *
172.19.20.4   *   *   3    00:0C:2D:5B:3C:35    2    *
172.19.20.5   *   *   3    00:90:FA:09:F3:D2    2    *
172.19.20.6   *   *   3    00:07:EB:19:CB:21    2    *
172.19.20.7   *   *   3    00:13:DC:00:C5:A3    2    *
172.19.20.8   *   *   3    00:90:FD:0B:D5:C0    2    *
172.19.20.9   *   *   3    00:12:9A:01:59:1C    2    *
172.19.20.10  *   *   0    00:12:9B:01:58:8C    2    *
172.19.20.11  *   *   3    00:0C:2C:40:B8:86    2    *
172.19.20.12  *   *   3    00:13:DD:25:01:BB    2    *
172.19.20.13  *   *   3    00:90:FA:09:F3:D2    2    *
172.19.20.14  *   *   3    00:30:1B:A3:7C:B8    2    *
172.19.20.15  *   *   3    00:0C:2C:AB:75:57    2    *
172.19.20.16  *   *   3    00:0C:2D:B8:B3:59    2    *
172.19.20.17  *   *   3    00:11:4A:CE:51:50    2    *
172.19.20.18  *   *   3    00:90:0B:09:8C:36    2    *
172.19.20.19  *   *   3    00:0C:2C:D7:BB:96    2    *
172.19.20.20  *   *   3    00:12:9D:00:19:43    2    *
```

4. Add the following below the “172.19.30.0” row.

```
172.19.30.1   *    *   3    00:0A:5D:11:4A:60    3    *
172.19.30.2   *    *   3    00:8B:C8:EF:4E:27    3    *
172.19.30.3   *    *   3    00:1C:D4:C2:8C:7D    3    *
172.19.30.4   *    *   3    00:0D:29:5B:3C:35    3    *
172.19.30.5   *    *   3    00:9A:FB:09:F3:D2    3    *
172.19.30.6   *    *   3    00:0B:E9:19:CB:21    3    *
172.19.30.7   *    *   3    00:1C:D4:00:C5:A3    3    *
172.19.30.8   *    *   3    00:9D:FB:0B:D5:C0    3    *
172.19.30.9   *    *   3    00:1A:97:01:59:1C    3    *
172.19.30.10  *    *   0    00:1B:97:01:58:8C    3    *
172.19.30.11  *    *   3    00:CC:29:40:B8:86    3    *
172.19.30.12  *    *   3    00:1D:D4:25:01:BB    3    *
172.19.30.13  *    *   3    00:9A:FB:09:F3:D2    3    *
172.19.30.14  *    *   3    00:3B:18:A3:7C:B8    3    *
172.19.30.15  *    *   3    00:CC:29:AB:75:57    3    *
172.19.30.16  *    *   3    00:0D:29:B8:B3:59    3    *
172.19.30.17  *    *   3    00:1A:43:CE:51:50    3    *
172.19.30.18  *    *   3    00:9B:0B:09:8C:36    3    *
172.19.30.19  *    *   3    00:CC:29:D7:BB:96    3    *
172.19.30.20  *    *   3    00:1D:97:00:19:43    3    *
```

5. Add the following below the “172.19.30.0” row.

```
172.19.40.1   *    *   0    00:05:5D:11:AA:60    4    *
172.19.40.2   *    *   0    00:80:C8:EF:BE:27    4    *
172.19.40.3   *    *   0    00:13:D4:C2:CC:7D    4    *
172.19.40.4   *    *   0    00:0C:29:5B:DC:35    4    *
172.19.40.5   *    *   0    00:90:FB:09:A3:D2    4    *
172.19.40.6   *    *   0    00:07:E9:19:BB:21    4    *
172.19.40.7   *    *   0    00:13:D4:0C:C5:A3    4    *
172.19.40.8   *    *   0    00:90:FB:0D:D5:C0    4    *
172.19.40.9   *    *   0    00:12:97:01:A9:1C    4    *
172.19.40.10  *    *   0    00:12:97:01:B8:8C    4    *
172.19.40.11  *    *   3    00:0C:29:40:C8:86    4    *
172.19.40.12  *    *   3    00:13:D4:25:D1:BB    4    *
172.19.40.13  *    *   3    00:90:FB:09:A3:D2    4    *
172.19.40.14  *    *   3    00:30:18:A3:BC:B8    4    *
172.19.40.15  *    *   3    00:0C:29:AB:C5:57    4    *
172.19.40.16  *    *   3    00:0C:29:B8:D3:59    4    *
172.19.40.17  *    *   3    00:11:43:CE:A1:50    4    *
172.19.40.18  *    *   3    00:90:0B:09:BC:36    4    *
172.19.40.19  *    *   3    00:0C:29:D7:CB:96    4    *
172.19.40.20  *    *   3    00:12:97:00:D9:43    4    *
```

6. Save and close the file.

Step 6 Import the file

1. From the left menu bar, select **“User List > Setting”**.
2. At the top of this interface, click **[Browse…]** and select the modified file “user_set.csv”.
3. Click **[OK]** to begin importing the file.
4. When the import completes, you can view the added users from the **“User List > Logged”** and **“User List > Ignored”** interfaces.

Reference

When a data packet from an undiscovered user within any of the monitored subnets is detected, SifoScopes will automatically add this user into the logged list.

The system displays user names according to the following:

- If available, the user name displayed is the computer name. Otherwise, the system displays the user PC’s DNS name. If neither of this information is available, the IP or MAC address will be displayed.
- DNS name: If a DNS server is specified, the system will automatically send a query to the server to obtain the user’s DNS name. This name will be displayed in the list. Please refer to “3.2 Configuring Network Settings” for information on specifying DNS servers.
- IP address/MAC address: The system will display the user’s IP address as the user name if the “IP Addresses” option is selected for the **User Name Binding** field in the **“Record > Setting > Setting”** interface. If the “MAC Addresses” option is selected, the user name displayed will be the corresponding MAC address. If “AD Server” is selected, the system will display the user’s account name as stored in the AD server.

The content of the .csv file containing user information must be of a specific format. For example:

```
############################################################
#Cell Format:
#Department / Group :
# ~1     Group_1
# ~2     Group_2
#
#User List :
#Subnet  Netmask  Default Group Number
#IP  User Name    Computer/Login Name   User Type    MAC  Group Number  DNS Name
#
#Comments:
#  IP:
#   "0" : This user list can only be imported when using user name - login
name binding.
#   "192.168.1.1" : This user list can only be imported when using user name -
IP / MAC binding.
#  User Name  Computer/Login Name   DNS Name:
#   "*": The display name will be chosen from user name its computer/login name
#        its entry from the DNS server  then its IP / MAC address.
#        The display name varies with the name binding method.
#  User Type:
#   "1" : Ignored
#   "3" : Logged
#
#
#Note:
#  "Space" or "comma" is not allowed in a cell.
#
############################################################


Department / Group :
~1   Operations
~2   Research
~3   Production
~4   Management
~5   Group_5
~6   Group_6
~7   Group_7
~8   Group_8
~9   Group_9
~10  Group_10
~11  Group_11
~12  Group_12

User List :
172.19.10.0  255.255.255.0    1
172.19.10.1  *    *   0    00:05:5D:11:4A:60    1    *
172.19.10.2  *    *   3    00:80:C8:EF:4E:27    1    *

172.19.20.0  255.255.255.0    2
172.19.20.1  *    *   3    00:25:5D:11:4A:60    2    *
```

```
172.19.20.2  *    *   3    00:20:C8:EF:4E:27    2    *

172.19.30.0  255.255.255.0    3
172.19.30.1  *    *   3    00:35:5D:11:4A:60    3    *
172.19.30.2  *    *   3    00:30:C8:EF:4E:27    3    *

172.19.40.0  255.255.255.0    4
172.19.40.1  *    *   0    00:45:5D:11:4A:60    4    *
172.19.40.2  *    *   3    00:40:C8:EF:4E:27    4    *
```

In the above example:

- All rows beginning with the character “#” are comments and will not be read by the system.
- “Department / Group :” area

  The first area of this file read and imported into the system defines group names. The first row specifies the name of group 1, next row defines the name of group 2 and so on.

  Please only edit the 2nd column (group name column) if you wish to modify group names.

- “User List :” area

  The next area of the file that is read and imported into the system defines subnet and user information. This area can be made up of several blocks, each defining a single subnet and the corresponding user information. Each block is separated by an empty row.

  Within each block, the first row defines the subnet information using the format: Subnet IP | Netmask | Subnet number

  Note that the subnet number must be unique.

  From the 2nd row onwards of each block, each row represents a user and includes 7 columns of information:

  - Column 1: IP address
  - Column 2: User name
  - Column 3: Computer name
  - Column 4: User Type

    Enter “3” for users whose activities are to be monitored by SifoScopes. For users that are not monitored, enter “0”.

  - Column 5: MAC address
  - Column 6: Group number

    Please enter the group number defined in the “Department / Group :” area of this file.

  - Column 7: DNS name

  Enter “*” to specify a null value for any of the above columns.

4.3 Configuring Access Record Attributes

This function allows you to update the Webmail, IM and P2P signature database, select how the system binds user name to data, whether to record LAN to LAN traffic, download an external plugin to be used to facilitate the recording of network data by the network monitoring system (the plugin must be installed onto the AD serer or a user PC), select the level of detail when recording network access for each type of service, character encoding, report mailing etc.

📖 Note:

You can click the **[Download]** button located on the "Plug-in for Binding to AD Server and Recording Skype Text Conversation" area of the **"Record > Setting > Setting"** interface to download the installation file for the plugin.

For more information on this plugin, please click the **[Help]** button located in the same area on the interface.

For the system to accurately recognize activities using Webmail, IM and P2P applications, SifoScopes automatically searches an online server for signature database updates hourly, performing an update when necessary. You can also manually initiate an update event.

SifoScopes is able to record network activities for the following types of services:

- SMTP
- POP3/IMAP
- HTTP
- IM
- Web SMTP
- Web POP3
- FTP
- Telnet

You can select the types of services to be recorded by the system in the "Content / Message Recording Settings" area of the **"Record > Setting > Setting"** interface.

From the "LAN to LAN Activity Recording" area (**"Record > Setting > Setting"**), you can specify whether SifoScopes should log or ignore traffic from an internal source to an internal destination. If internal users access the Internet using a proxy server, you should log such traffic by selecting the "Logged" option.

📖 Note:

The system determines whether an address is from the internal network according to the user's subnet. When the address is within any of the subnets being monitored by SifoScopes, the system assumes it to be an internal address. Otherwise, it will be treated as an external address. For more information on users and the subnets monitored by SifoScopes, please refer to "4.2 Managing the Logged / Ignored User Lists".

Configuration Procedure

Step 1 Login to SifoScopes UI via a read/write administrator account.

Step 2 From the left menu bar, select **"Record > Setting > Setting"**.

Step 3 On this interface, configure the system according to your network's requirements.

Step 4 Click **[OK]** to save your configurations.

Reference

The table below explains the various record attributes you need can set up from the **"Record > Setting > Setting"** interface.

Parameter Name	Explanation	Configuration
User Name Binding	When SifoScopes detects data packets from a new user, the system will assign this user a user name according to this setting. The options include: • IP Address – This option is recommended if: 1. Your network searches for workstations based on IP addresses. 2. The user is behind a router while SifoScopes is deployed in front of a router. In this situation, the MAC address of the data packet points to the router instead of to the user. • MAC Address You should select this option if dynamic IP addresses are assigned to users (such as via a DHCP server). • AD Server For networks using external AD servers, we recommend that the system binds user names to the AD server.	[How to Configure] Select the radio button corresponding to the desired option. [Range] • IP Address • MAC Address • AD Server
Plug-in for Binding to AD Server and Recording Skype Text Conversation	Plugins help SifoScopes process encrypted records (such as Skype transmissions). You can click the **[Help]** button for more information.	[How to Configure] Enter the port number into the textbox.
LAN to LAN Activity Recording	Set up the system to log or ignore internal traffic (both source and destination addresses are internal addresses). Generally, if internal users access the Internet using a proxy server, you should log such traffic by selecting the "Logged" option.	[How to Configure] Select the appropriate radio button. [Range] • Ignored • Logged

Parameter Name	Explanation	Configuration
Content / Message Recording Settings	Select which types of services will be recorded by SifoScopes for LAN to WAN traffic and WAN to LAN traffic independently. By default, the system records all activities using the SMTP, POP3/IMAP, HTTP, IM, Web SMTP, Web POP3, FTP and Telnet services. You can specify how detailed the system stores access records for each service type independently. For example, select the option “Message” for LAN to WAN traffic for the HTTP service. SifoScopes will only record a list of links to HTTP web site accessed by LAN users. The content of each accessed webpage will not be stored.	[How to Configure] Check the checkboxes to record activities using the corresponding service. [Range] • Content • Message • Not Recording
The maximum entries to be displayed on the page	Specify the maximum number of items to be displayed per page of a list on the WebUI.	[How to Configure] Enter the number in the textbox. [Range] 10 – 200
Report Browsing Settings (Search Results/ Audit Report)	Select whether to enable hyperlinks to report sent via email. Configure the **IP Address** and **Port** number to use when accessing reports via hyperlink from an external network. Specify the length of time these hyperlinks will be accessible. Click **[Help]** to obtain more information on these parameters.	[How to Configure] Check the checkbox to enable hyperlinks and enter the values in the textboxes.
Default Character Encoding	The default character encoding used to record data detected by the system if the data does not contain specific encoding information.	[How to Configure] Select from the drop down menu. [Recommended] Simplified Chinese GB2312

Recommendations – Plugins

For a basic understanding on how to download, install and use the plugin that can be downloaded from SifoScopes UI, simply click the **[Help]** button and follow the instructions that are displayed to install and activate the plugin normally.

If the plugin does not operate normally, function remains deactivated or system is unable to record Skype messages correctly even after installing the plugin, it may be due to the following reasons:

- Detected as malicious program by anti-virus softwares
- Blocked by firewall applications or port conflict exists
- Error occurred when downloading the “CM_Plugin.exe” file
- A special version of the Skype application is used (such as Tom Skype) and the corresponding access settings have not be configured.

The following procedure helps you to troubleshoot and resolve this problem:

Step 1 Check whether your anti-virus software detected CM_Plugin.exe as a malicious program.

Please check if CM_Plugin.exe was detected as a virus/spyware application by the anti-virus software installed on your local host.

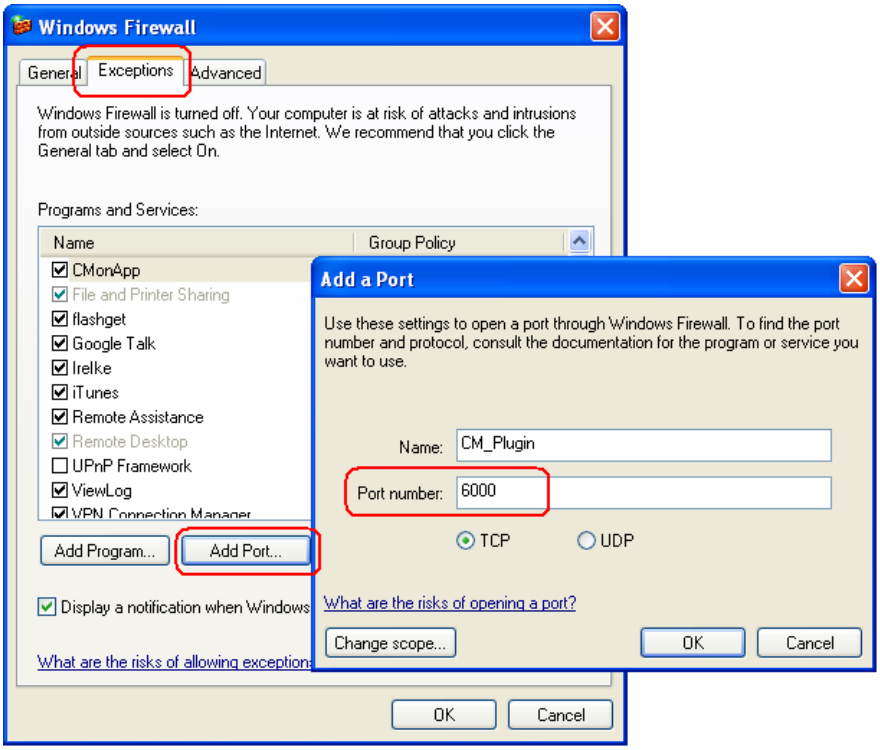
If CM_Plugin.exe was detected as a malicious program and blocked by your anti-virus software, please manually unblock or add an exception for this plugin. For details on how to modify settings on your anti-virus software, please refer to the software’s or vendor’s own documentations.

If your anti-virus software did not detect CM_Plugin.exe as a malicious program or if the above procedure did not resolve the issue, please continue to the next step.

Step 2 Check if CM_Plugin.exe was blocked by a firewall application or if port conflict exists.

Check if the service port number used by CM_Plugin.exe was blocked by the firewall application installed on your local host or if the port number is already in use by another application.

If the port was blocked by the firewall, simply open this port number. An example is shown below (using Windows Firewall):



If the port number is in use by another application, thus causing port conflict, please edit the port number used by CM_Plugin.exe to an unused port. You can edit this port number from the SifoScopes UI as shown below:

If this problem does not exist or if the above procedure did not resolve the issue, please continue to the next step.

Step 3 Check for errors during the download operation when downloading the CM_Plugin.exe file.

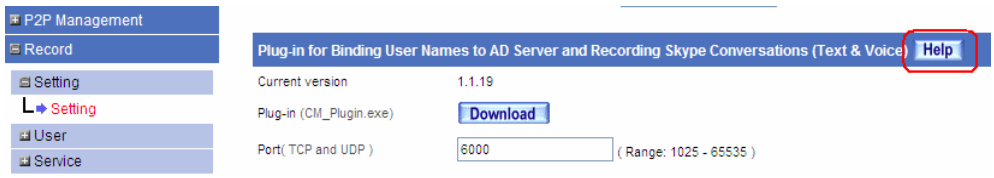
You must have correctly configured SifoScopes network interfaces (that is, completed the "3.2 Configuring Network Settings" operation) before downloading the CM_Plugin.exe file. Otherwise, the downloaded plugin may contain errors.

If you did not complete the "3.2 Configuring Network Settings" operation before downloading the file or had modified any network settings (such as interface IP), please uninstall the CM_Plugin.exe. Download a new copy of the CM_Plugin.exe file and reinstall the plugin.

If this problem does not exist or if the above procedure did not resolve the issue, please continue to the next step.

Step 4 Check if the issue is due to the use of specific versions of Skype (such as Tom Skype) while the corresponding access settings have not been configured.

From **"Record > Setting > Setting"** on the SifoScopes UI, click the **[Help]** button as shown in the figure below.



From the dialog window that appears, please read section "4-1 To Record Skype Conversation" and configure accordingly.

If the problem persists, please contact your system administrator. For further technical support, please contact O_2Security's technical support personnel.

4.4 Viewing Access Records According to Users

This function allows you to view and analyse the records of all network activities for each user.

SifoScopes displays each user's records into various lists including:

List Name	Description
Today Log	Displays all records of the user's activities when accessing all service types (SMTP, POP3/IMAP, IM, HTTP, Web SMTP, Web POP3, FTP and Telnet) for the current date.
SMTP	Displays user's mail activities over the SMTP service. By default, the system lists only records for the current day. You can use the search function to specify various criteria to search for specific mail records. Search criteria includes start/end time, sender address, recipient address, mail subject, whether the mail includes attachment, attachment file name etc.
POP3/IMAP	Displays user's mail activities over the POP3/IMAP service. By default, the system lists records for the current day only. You can use the search function to specify various criteria to search for specific mail records. Search criteria includes start/end time, sender address, recipient address, mail subject, whether the mail includes attachment, attachment file name etc.
HTTP	Displays user's web browsing activities over the HTTP service. By default, the system only lists records for the current day. You can search for specific records based on start/end time, name of the website, web page content, traffic direction (upload or download) etc.
IM	Displays user's activities over the IM applications. By default, the system lists records for the current day. You can use the search function to specify various criteria to search for specific records based on start/end time, type of IM application, account name, file name, authentication name etc.

List Name	Description
Web SMTP	Displays user's mail activities over the Web SMTP service. By default, the system lists records for the current day only. You can search for specific mail records according to the start/end time, sender address, recipient address, mail subject, mail content, whether the mail includes attachment, attachment file name etc.
Web POP3	Displays user's mail activities over the Web POP3 service. By default, the system lists records for the current day only. You can search for specific mail records according to the start/end time, sender address, recipient address, mail subject, mail content, whether the mail includes attachment, attachment file name etc.
FTP	Displays user's file transfer activities over the FTP service. By default, the system lists records for the current day only. Specify various criteria including start/end time, file name, host name, file size etc. to search for specific records.
Telnet	Displays user's activities over the Telnet service. By default, the system lists records for the current day only. Specify various criteria including start/end time, host name etc. to search for specific records.
Custom View	A customizable list that only displays records of user activities for all service types (SMTP, POP3/IMAP, HTTP, IM, Web SMTP, Web POP3, FTP and Telnet) that satisfy the specified criteria. Using the search function, you can search for specific records from this list based on start/end time, service type etc.

You can view search results directly in the record list window, download the resultant list to a file for local storage or send the list to a previously specified email address.

Note:

You must enable and set up the system's email notification function before you can send the search results via email. Please refer to "3.4 Configuring Basic System Parameters" for details on setting up email notification.

To view a particular user's network activity records, the administrator must be assigned with the monitoring authority for the group this user belongs to. "3.3 Managing Administrator Accounts" provides more information on assigning administrators' access authority.

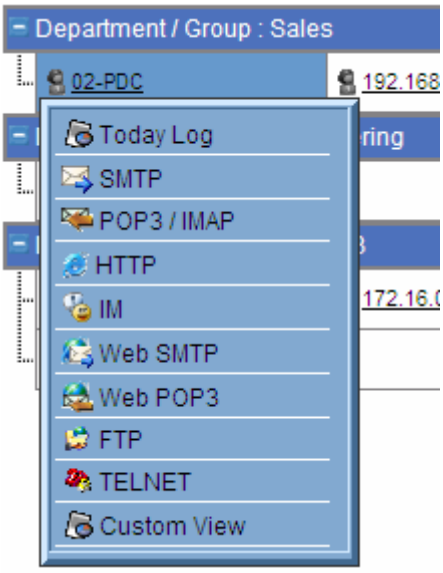
Configuration Procedure

Step 1 Login to SifoScopes UI.

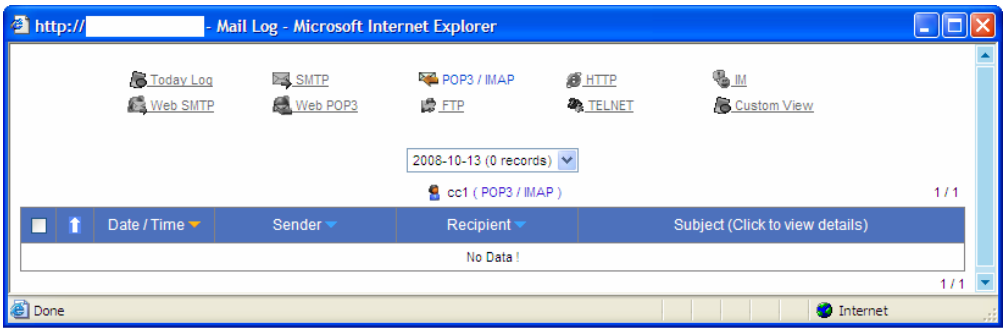
Step 2 From the left menu, select **"Record > User > Logged"**.

Step 3 A list of all subnets monitored by the system will be displayed. From this interface, click ⊞ to view the users within a particular department/group.

Step 4 Click on a user in the list to view the various types of record lists that can be viewed.



Step 5 Click on the type of record you wish to view from the above menu. A new window displaying the corresponding list will appear as shown in the figure below:



Step 6 View or search for specific records using this window. You can also view other types of records by clicking on the list name at the top of this window.

Example 1 (HTTP)

An administrator, assigned to the group “Service”, wants to view the web browsing activities of a user “172.16.1.1” via the HTTP protocol from 8am on 10th October 2008 to 6pm on 13th October 2008. This user belongs to the “Service” group.

The configuration procedure is as follows:

Step 1 Login to the SifoScopes UI.

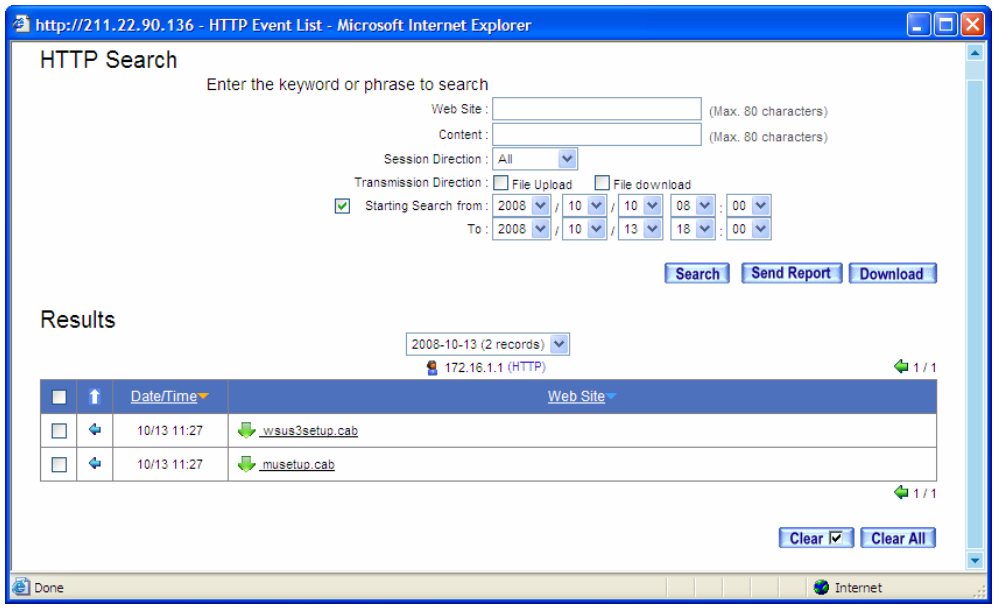
Step 2 Select **“Record > User > Logged”** to view the list of all users whose activities are recorded by the system.

Step 3 Locate user “172.16.1.1” from this list

1. Click on the user “172.16.1.1” from the “Service” group.
2. In the menu that appears, click “**HTTP**”.

Step 4 Search records.

1. From the top of the list displayed on the new window that appears, click the icon.
2. In the “HTTP Search” interface, check the checkbox to the left of the **Starting Search from** parameter.
3. Select the date “2008/10/10 08:00” for the **from** field and “2008/10/13 18:00” for the **To** field.
4. Click **[Search]**. The list of all records generated by this user during this time range will be displayed below.



Step 5 From the list of records, you can:

- Click on the link in the **Web Site** column to view the contents of the corresponding web page.
- Only a single day's record will be listed at any time. You can use the drop down menu at the top of the list to view records from other dates.
- To remove records unnecessary to your analysis purpose, check the checkbox in the leftmost column corresponding to the record(s) and click the **[Clear]** button at the bottom of the list.
- Click **[Send Report]** to send this list to the specified recipients via email.
- Click **[Download]** to download this list to a file stored on your local PC.

Example 2 (SMTP)

An administrator, assigned to the group “Service”, wants to view all SMTP mail activities of a user “172.16.1.240” from 8am on 10th October 2008 to 6pm on 13th October 2008. This user belongs to the “Service” group.

The configuration procedure is as follows:

Step 1 Login to SifoScopes UI.

Step 2 From the left menu bar, select **“Record > User > Logged”**.

Step 3 Locate user “172.16.1.240” from this list

1. Click on the user “172.16.1.240” from the “Service” group.
2. In the menu that appears, click “**SMTP**”.

Step 4 Search records.

1. From the top of the list displayed on the new window that appears, click the icon.
2. In the “SMTP Search” interface, check the checkbox to the left of the **From** parameter.
3. Select the date “2008/10/10 08:00” for the **From** field and “2008/10/13 18:00” for the **To** field.
4. Click **[Search]**. The list of all records generated by this user during this time range will be displayed in the “Results” list below.

Step 5 From this record list, you can:

- Click on the link in the **Subject** column to view the contents of the corresponding mail.
- Only a single day’s record will be listed at any time. You can use the drop down menu at the top of the list to view records from other dates.
- To remove records unnecessary to your analysis purpose, check the checkbox in the leftmost column corresponding to the record(s) and click the **[Clear]** button at the bottom of the list.
- Click **[Send Report]** to send this list to the specified recipients via email.
- Click **[Download]** to download this list to a file stored on your local PC.
- Click **[Export Mail]** to export all mails in this list into your local PC. You can click **[Help]** to view details on how to view the exported mail files.

Example 3 (IM)

An administrator, assigned to the group “Service”, wants to view all IM activities of a user “172.16.1.117” from 8am to 6pm on 13th October 2008. This user belongs to the “Service” group.

The configuration procedure is as follows:

Step 1 Login to SifoScopes UI.

Step 2 From the left menu bar, select **“Record > User > Logged”**.

Step 3 Locate user “172.16.1.117” from this list

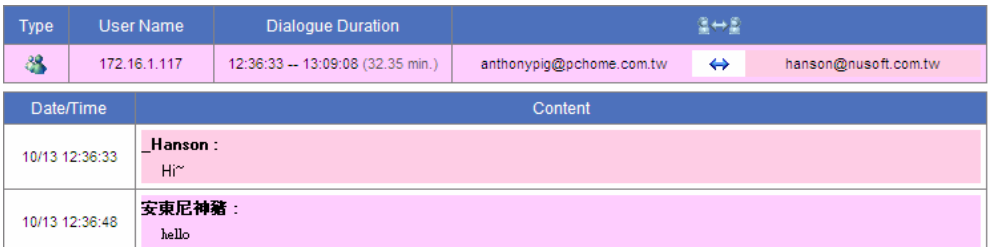
1. Click on the user “172.16.1.117” from the “Service” group. In the menu that appears, click “**IM**”.

Step 4 Search records.

1. From the top of the list displayed on the new window that appears, click the icon.
2. In the “IM Search” interface, check the checkbox to the left of the **Starting search from** parameter.
3. Select the date “2008/10/13 08:00” for the **from** field and “2008/10/13 18:00” for the **To** field.
4. Click **[Search]**. The list of all records generated by this user during this time range will be displayed in the “Results” list below.

Step 5 From this list of IM records, you can:

- Use the drop down menu at the top of the list to view records from other dates. Only a single day’s record will be listed at any time.
- To remove records unnecessary to your analysis purpose, check the checkbox in the leftmost column corresponding to the record(s) and click the **[Clear]** button at the bottom of the list.
- Click **[Send Report]** to send this list to specified recipients via email.
- Click **[Download]** to download this list to a file stored on your local PC.
- Click the link in the rightmost column of the list to view the message logs of the corresponding IM conversation record. The IM message will be displayed in a new window. An example is shown below:



- For Skype usage records, if a bi-directional audio conversation between the two parties had occurred, you will be able to replay the audio conversation by clicking the "▶" button. To download the audio file, click the "💾" button. An example is shown in the figure below:

Example 4 (Custom View)

An administrator, assigned to the group "Service", wants to view all recorded network activities of a user "172.16.1.1" from 8am on 10th October 2008 to 6pm on 13th October 2008. This user belongs to the "Service" group.

The configuration procedure is as follows:

Step 1 Login to SifoScopes UI.

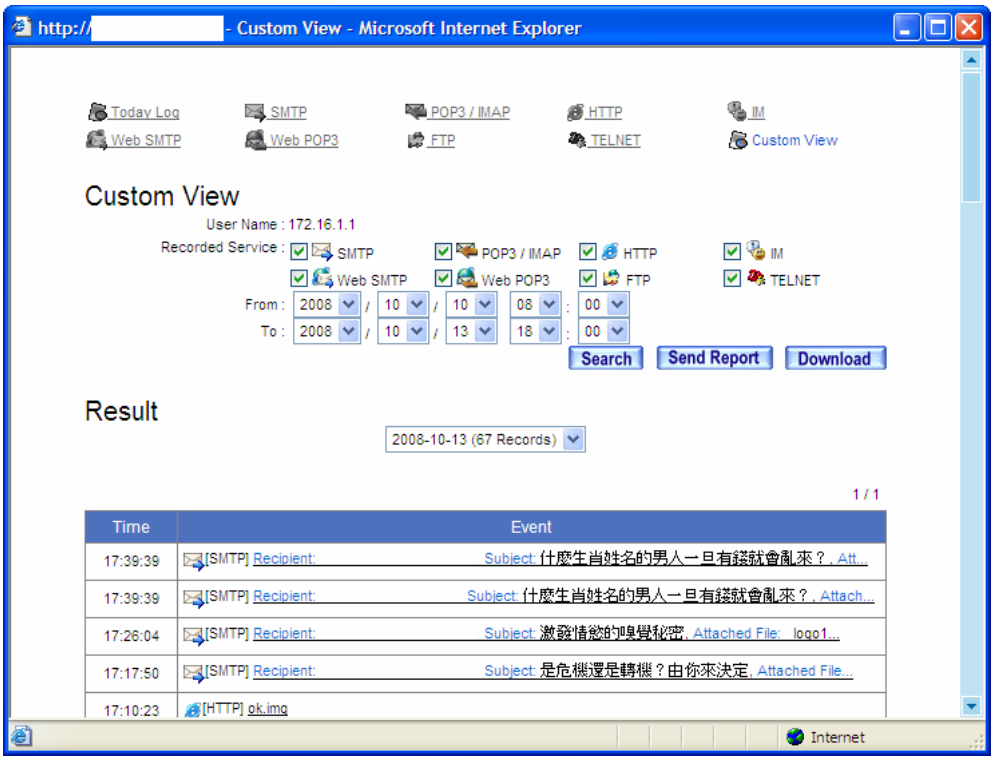
Step 2 From the left menu bar, select "Record > User > Logged".

Step 3 Locate user "172.16.1.1" from this list.

1. Click on the user "172.16.1.1" from the "Service" group.
2. In the menu that appears, click "**Custom View**".

Step 4 Search records.

1. In the “Custom View” interface, select the date “2008/10/10 08:00” for the **From** field and “2008/10/13 18:00” for the **To** field. Maintain the default setting for all other search fields.
2. Click **[Search]**. The list of all records generated by this user during this time range will be displayed in the “Results” list below.



Step 5 From the result list, you can:

- View detailed contents of each record by clicking the link in the **Event** column.
- Use the drop down menu at the top of the list to view records from other dates. Only a single day’s record will be listed at any time.
- To remove records unnecessary to your analysis purpose, check the checkbox in the leftmost column corresponding to the record(s) and click the **[Clear]** button at the bottom of the list.
- Click **[Send Report]** to send this list to the specified recipients via email.
- Click **[Download]** to download this list to a file stored on your local PC.

4.5 Viewing Access Records According to Service Type

This function allows you to view and analyse the records of all network activities for each user. The various concepts relating to this function is identical to "4.4 Viewing Access Records According to Users" above.

Configuration Procedure

Step 1 Login to SifoScopes UI.

Step 2 From the left menu bar, select **"Record > Service > SMTP / (POP3/IMAP) / HTTP / IM / Web SMTP / Web POP3 / FTP / Telnet"** to view the corresponding list of records for the selected service type.

Step 3 From the record list, you can:

- View detailed contents of each record by clicking the record's hyperlink in the list.
- Use the drop down menu at the top of the list to view records from other dates.
- To remove records unnecessary to your analysis purpose, check the checkbox in the leftmost column corresponding to the record(s) and click the **[Clear]** button at the bottom of the list.
- Click the icon to specify various criteria to search the list.

Example 1 (HTTP)

An administrator authorized to browse records for the group “Service”. He wants to view all recorded web pages accessed between 8am on 10th October 2008 and 6pm on 13th October 2008 by all users belonging to this group.

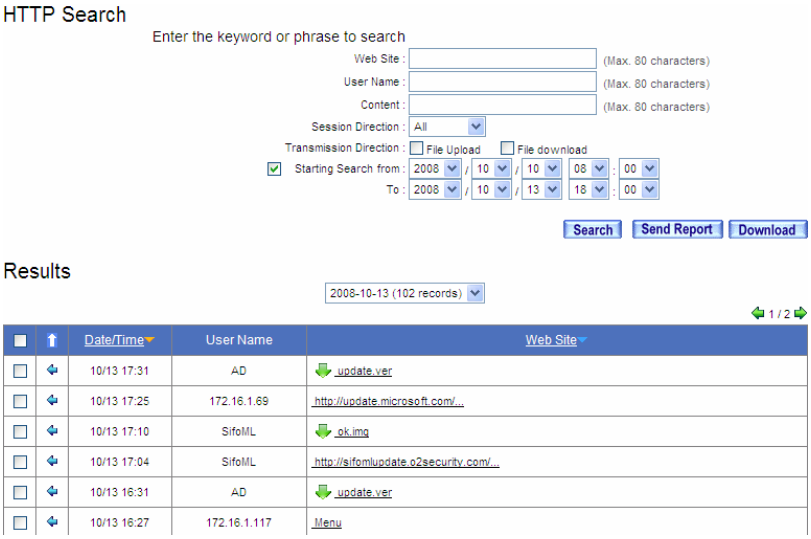
The configuration is as follows:

Step 1 Login to SifoScopes using his administrator account.

Step 2 Select **“Record > Service > HTTP”** from the left menu bar.

Step 3 Search records.

1. From the top of the list displayed, click the icon.
2. In the “HTTP Search” interface, check the checkbox to the left of the **Starting Search from** parameter.
3. Select the date “2008/10/10 08:00” for the **from** field and “2008/10/13 18:00” for the **To** field.
4. Click **[Search]**. The list of all records generated by all users in the “Service” group during this time range will be displayed below.



Step 4 From the resulting list, you can:

- Click on the link in the **Web Site** column to view the contents of the corresponding web page.
- Use the drop down menu at the top of the list to view records from other dates.
- To remove records unnecessary to your analysis purpose, check the checkbox in the leftmost column corresponding to the record(s) and click the **[Clear]** button at the bottom of the list.
- Click **[Send Report]** to send this list to specified recipients via email.
- Click **[Download]** to download this list to a file stored on your local PC.

Example 2 (SMTP)

An administrator is authorized to monitor the group “Service”. He wants to view all mails sent/received (via SMTP) between 8am on 10th October 2008 and 6pm on 13th October 2008 by all users belonging to this group.

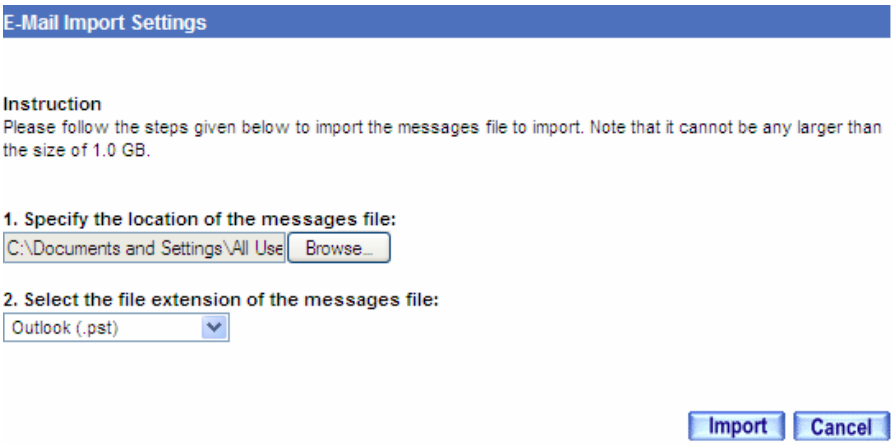
The configuration is as follows:

Step 1 Login to SifoScopes UI using his administrator account.

Step 2 From the left menu bar, select **“Record > Service > SMTP”**.

Note:

You can import mails into the SMTP list using files of the following format: Outlook Express (.dbx), Outlook (.pst), Mailbox (.mbx, .mbox). To import a file, click the icon at the top of the list. In the dialog window that appears, select the file to import and click **[Import]**.


E-Mail Import Settings
Instruction
Please follow the steps given below to import the messages file to import. Note that it cannot be any larger than the size of 1.0 GB.
1. Specify the location of the messages file:
C:\Documents and Settings\All Use
Browse...
2. Select the file extension of the messages file:
Outlook (.pst)
Import
Cancel

Step 3 Search records.

1. From the top of the list displayed, click the icon.
2. In the “SMTP Search” interface, check the checkbox to the left of the **Starting Search from** parameter.
3. Select the date “2008/10/10 08:00” for the **from** field and “2008/10/13 18:00” for the **To** field.
4. Click **[Search]**. The list of SMTP mail records for all users in the “Service” group during this time range will be displayed below.

Step 4 From the list of records, you can:

- Click on the link in the **Subject** column to view the contents of the corresponding mail.
- Use the drop down menu at the top of the list to view records from other dates.
- To remove records unnecessary to your analysis purpose, check the checkbox in the leftmost column corresponding to the record(s) and click the **[Clear]** button at the bottom of the list.
- Click **[Send Report]** to send this list to the specified recipients via email.
- Click **[Download Report]** to download this list to a file stored on your local PC.
- Click **[Export Mail]** to export all mails in this list into your local PC. You can click **[Help]** to view details on how to view the exported mail files.

Example 3 (IM)

An administrator is authorized to monitor the group “Service”. He wants to view accesses to IM applications between 8am to 6pm on 13th September 2008 by all users in this group.

The configuration is as follows:

Step 1 Login to SifoScopes UI using his administrator account.

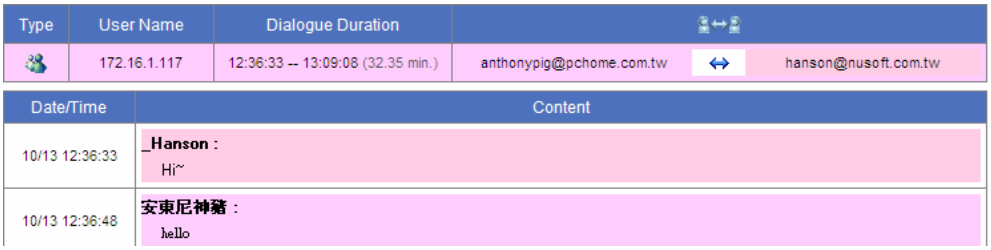
Step 2 From the left menu bar, select **“Record > Service > IM”**.

Step 3 Search records

1. From the top of the list displayed, click the icon.
2. In the “IM Search” interface, check the checkbox to the left of the **Starting Search from** parameter.
3. Select the date “2008/10/13 08:00” for the **from** field and “2008/10/13 18:00” for the **To** field.
4. Click **[Search]**. The list of IM access records for all users in the “Service” group during this time range will be displayed below.

Step 4 From this record list, you can:

- Use the drop down menu at the top of the list to view records from other dates.
- To remove records unnecessary to your analysis purpose, check the checkbox in the leftmost column corresponding to the record(s) and click the **[Clear]** button at the bottom of the list.
- Click **[Send Report]** to send this list to the specified recipients via email.
- Click **[Download]** to download this list to a file stored on your local PC.
- Click the link in the rightmost column of the list to view the message logs of the corresponding IM conversation record. The IM message will be displayed in a new window. An example is shown in the figure below:



- For Skype usage records, if a bi-directional audio conversation between the two parties had occurred, you will be able to replay the audio conversation by clicking the "▶" button. To download the audio file, click the "💾" button. An example is shown in the figure below:

4.6 Set Up Content Audit

Through this function, you can add content audit rules to set up SifoScopes to search for records fulfilling certain criteria from the previous 1 day at 00:30am daily. The system will send these records to specific recipients via email.

Example

The human resource manager requests to receive daily record lists containing SMTP and Web SMTP mail activities for all monitored users. The mail content should contain the keywords “reporting”, “human resource”, “resume”, “private” and “confidential”.

The system administrator must therefore add a content audit rule to set up SifoScopes to send all records fulfilling these criteria to the manager’s email (“hrMgr@example.com”).

The configuration procedure is as follows:

Step 1 Login to SifoScopes UI via the “admin” account.

Step 2 From the left menu bar, select **“Content Auditing > Setting”** to view the list of content audit rules.

Step 3 Add a content audit rule for the SMTP service.

1. Click **[New Entry]** to view the “Add New Audit” interface.
2. Configure the audit rule as follows:

   Name: SMTP_Rule

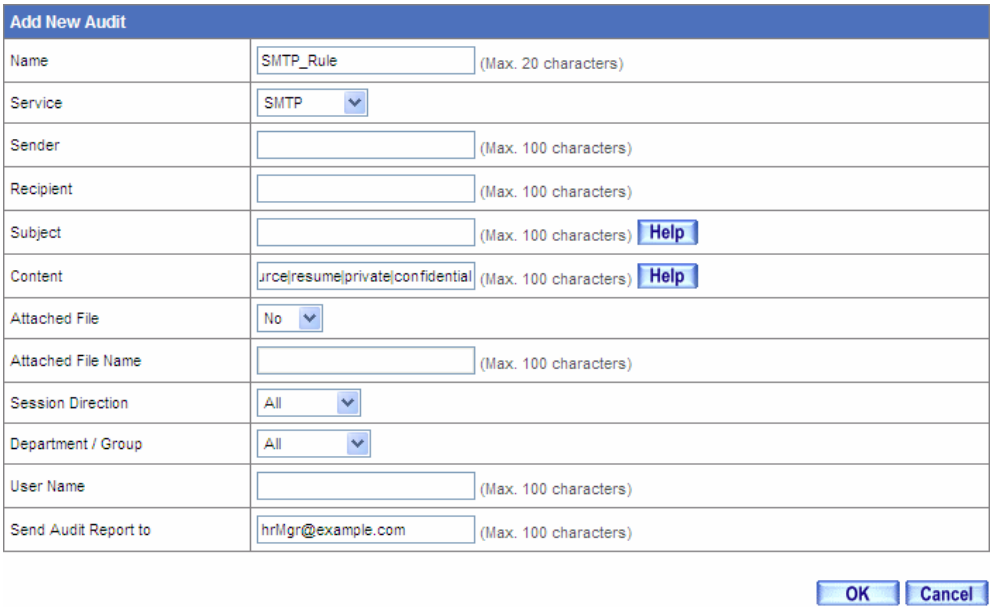
   Service: SMTP

   Content: reporting|human resource|resume|private|confidential

   Attached File: No

   Department / Group: All

   Send Audit Report To: hrMgr@example.com



3. Click **[OK]** to save this rule.

Step 4 Add a content audit rule for the Web SMTP service.

1. From the content audit rule list, click **[New Entry]** to view the “Add New Audit” interface.
2. Configure the audit rule as follows:

   Name: Web_SMTP_Rule

   Service: Web SMTP

   Content: reporting|human resource|resume|private|confidential

   Attached File: No

   Department / Group: All

   Send Audit Report To: hrMgr@example.com

3. Click **[OK]** to save the content audit rule.

Chapter

5

IM/P2P Software Access Control

This chapter includes the following sections

- Overview

  Briefly introduces the aim of this chapter.

- Managing IM Access

  Explains, in detail, how SifoScopes can be set up to control and monitor access to instant messaging software by users in the network.

- Managing P2P Usage

  This section introduces SifoScopes control over user's P2P access.

To understand the usage of IM/P2P control and how to configure SifoScopes to achieve your desired control over user accesses to such programs, please refer to this chapter.

5.1 Overview

This series of operations allow you to set up SifoScopes to define whether a user account is allowed access to which IM/P2P programs, whether he is allowed to transfer files over IM software, monitor IM conversations etc. This allows administrators to ensure that network bandwidth is used efficiently and enhancing the security of the network.

5.2 Managing IM Access

IM access management allows you to control IM access by internal users via SifoScopes. SifoScopes is able to detect and manage various commonly used IM applications including MSN, Yahoo, QQ, ICQ/AIM, Skype, Gadu-Gadu, Google Talk and Web IM applications.

Note that IM management can only be set up if SifoScopes is working in bridge mode.

SifoScopes supports various management mechanisms for IM applications including:

1. Enable the system to send a NetBIOS message to users when they login to an IM application. Such messages can be used to announce company's policies regarding use of such applications.

   For MSN, ICQ/AIM and Yahoo messaging software, you can also select to send a notification message to the user through the application's messaging window directly.

2. Set up an authentication mechanism, only allowing users who have been authenticated via SifoScopes to access IM applications.

   SifoScopes supports various authentication methods including local authentication via a user list maintained on the SifoScopes device, remote authentication by connecting the device to RADIUS, LDAP or POP3 authentication servers deployed in the network.

   When authentication is required, users must first open their web browser, enter the address "http://*SifoScopes administrative IP*/auth" and enter their authentication information. They can only access IM applications after authentication is successful.

3. Administrators can define access rules for MSN, Yahoo, QQ, ICQ/AIM, Skype, Gadu-Gadu, Google Talk and Web IM applications.

   You can define default rules to be enforced on the majority of users for each IM application. The table below explains each default rule option.

For users that require rules differing from the default rule, you can manually assign specific account rules. Three account rules are available for each IM application including: “Accept”, “Accept (No File Transfer)” or “Drop”.

Default Login Rule Setting (**“IM Management > Rule > Default Rule”**)

IM Application	Rule	Description
MSN	Accept: Unencrypted message Drop: Encrypted message	Only allow transmission of unencrypted MSN messages.
	Accept: Authenticated user sending unencrypted message Drop: Unauthenticated user or encrypted message	Only authenticated users are allowed to login to MSN. All messages transmitted via MSN must not be encrypted.
	Accept: Authentication user Drop: Unauthenticated users	Authenticated users are allowed to login to MSN.
	Accept: Everyone Drop: None	All MSN login attempts are accepted.
	Accept: None Drop: Everyone	All MSN login attempts will be dropped.
Yahoo	Accept: Everyone Drop: None	All Yahoo messenger login attempts are accepted.
	Accept: Authentication user Drop: Unauthenticated user	Only authenticated users are allowed to login to Yahoo messenger.
	Accept: None Drop: Everyone	All Yahoo messenger login attempts are dropped.

IM Application	Rule	Description
QQ	Accept: Valid password Drop: Invalid password	Users must enter the correct QQ account name and password in the “Add QQ Account” interface to access QQ. To view this interface, enter the URL “http://*SifoScopes Administrative IP*/qq” in the web browser. (Example: http://192.168.1.1/qq”). Note: QQ encrypts messages before transmission. Hence, users must provide a valid QQ account name and password to SifoScopes. This will allow the system to decrypt and record QQ conversations.
	Accept: Authenticated user with valid password Drop: Unauthenticated user or invalid password	Only authenticated users whose QQ passwords have been verified by SifoScopes can login to their QQ accounts.
	Accept: Authentication user Drop: Unauthenticated user	Only authenticated users can login to their QQ account. Note: As SifoScopes is unable to obtain the QQ account’s password, only a log of the user’s QQ access will be recorded. The system will not record the contents of QQ conversations for these users.
	Accept: Everyone Drop: None	All QQ login attempts are accepted. Note: As SifoScopes is unable to obtain the QQ account’s password, only a log of the user’s QQ access will be recorded. The system will not record the contents of QQ conversations for these users.
	Accept: None Drop: Everyone	Block all QQ login attempts.

IM Application	Rule	Description
ICQ / AIM	Accept: Everyone Drop: None	Allow any user to login to ICQ / AIM.
	Accept: Authenticated user Drop: Unauthenticated user	Only authenticated users can access ICQ / AIM.
	Accept: None Drop: Everyone	Block all users ICQ / AIM login attempts.
Skype	Accept: User running IR_Plugin.exe Drop: Others	Only allow users to login to Skype if their host PC is running a specific plugin. This plugin can be downloaded from the **"Record > Setting > Setting"** interface. For a guide on troubleshooting errors when using this plugin, please refer to the "Recommendations – Plugins" section in "4.3 Configuring Access Record Attributes".
	Accept: Everyone Drop: None	Allow any user to login to Skype.
	Accept: None Drop: Everyone	Block all user Skype login attempts.
Gadu-Gadu	Accept: Unencrypted message Drop: Encrypted message	Only allow transmission of unencrypted Gadu-Gadu messages.
	Accept: Authenticated user sending unencrypted message Drop: Unauthenticated user or encrypted message	Only authenticated users are allowed to login to Gadu-Gadu. All messages transmitted must be unencrypted.
	Accept: Authentication user Drop: Authentication failure	Only authenticated users are allowed to login to Gadu-Gadu.
	Accept: Everyone Drop: None	All Gadu-Gadu login attempts are accepted.
	Accept: None Drop: Everyone	Block all Gadu-Gadu login attempts.

IM Application	Rule	Description
Google Talk	Accept: Everyone Drop: None	Allow any user to login to Google Talk.
	Accept: None Drop: Everyone	Block all user Google Talk login attempts.

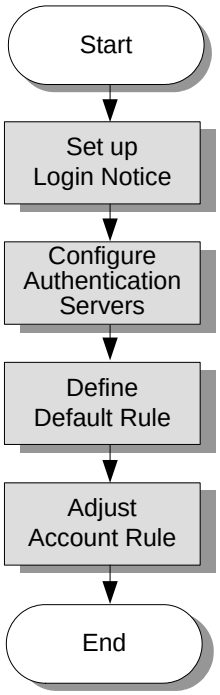
IM Application	Rule	Description
Web IM	Accept: Everyone Drop: None	Allow any user to login to Web IM applications.
	Accept: Official MSN Web Messenger Drop: Others	Only allow users to login to the official web MSN (http:// webmessenger.msn.com/). Access via all other Web IM applications will be blocked by the system.
	Accept: None Drop: Everyone	Block Web IM application login attempts by all users

Default File Transfer Setting (**"IM Management > Rule > Default Rule"**)

IM Application	Rule	Description
MSN Yahoo QQ ICQ / AIM Gadu-Gadu Google Talk	Accept	Allow file transfer.
	Drop	Block all file transfer attempts.

By default, the system enforces the default rule on all IM users in the network. Administrators can select to enable one or more of the above IM access control mechanisms according to the network requirements.

Configuration Flowchart



The above flowchart is explained in the table below.

Operation	Explanation
Set up Login Notice	Enable the system to send notification to users logging in to access IM applications.
Configure Authentication Server	Set up SifoScopes as a local authentication server or connect the system to remote Radius, POP3 or LDAP servers for user authentication.
Define Default Rule	Specify the default actions SifoScopes should perform when users attempt to access particular IM applications.
Adjust Account Rule	For user accounts that the IM default rule does not apply, assign these accounts to specific account rules.

Example 1 (Login Notice + Rules)

The company's IM management policy is as follows:

- Users are only allowed to access the MSN application. All messages transmitted must be unencrypted.
- The following message will be displayed when users login to MSN:

```
Notice:

  All instant message will be logged by the SifoScopes System and
are subject to archival monitoring or disclosure to someone other
than the recipient.

=====================================================
请注意：

  实时通讯软件所传递的讯息或活动，将被 SifoScopes System 所记录。
```

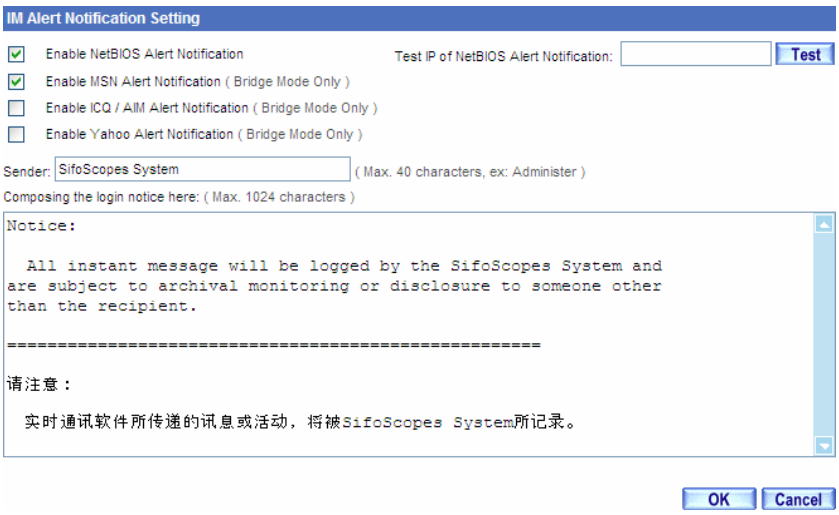
- User authentication is not required.
- The user with address "172.19.20.0/24" is not allowed to transfer files over MSN. All other users can transfer files using MSN.

A system administrator with read-write authority is assigned to complete this configuration. The procedure is as follows:

Step 1 Login to SifoScopes administrative UI via the "admin" account.

Step 2 Enable login notice

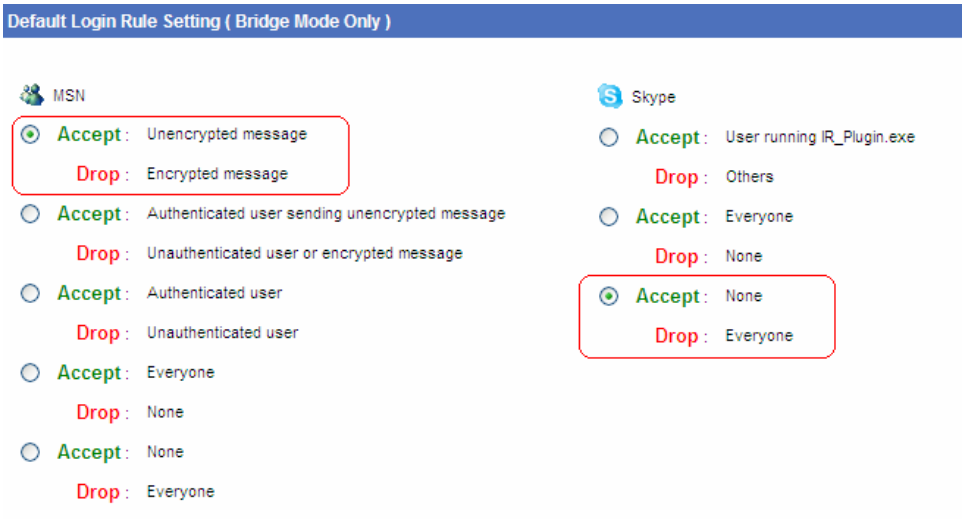
1. From the left menu, select **"IM Management > Configure > Logon Notice"**.
2. Select Enable NetBIOS Alert Notification.
3. Select Enable MSN Alert Notification.
4. Enter the message into the textbox below.


IM Alert Notification Setting
Enable NetBIOS Alert Notification
Test IP of NetBIOS Alert Notification:
Test
Enable MSN Alert Notification (Bridge Mode Only)
Enable ICQ / AIM Alert Notification (Bridge Mode Only)
Enable Yahoo Alert Notification (Bridge Mode Only)
Sender: SifoScopes System
(Max. 40 characters, ex: Administer)
Composing the login notice here: (Max. 1024 characters)
Notice:
All instant message will be logged by the SifoScopes System and are subject to archival monitoring or disclosure to someone other than the recipient.
请注意：
实时通讯软件所传递的讯息或活动，将被SifoScopes System所记录。
OK
Cancel

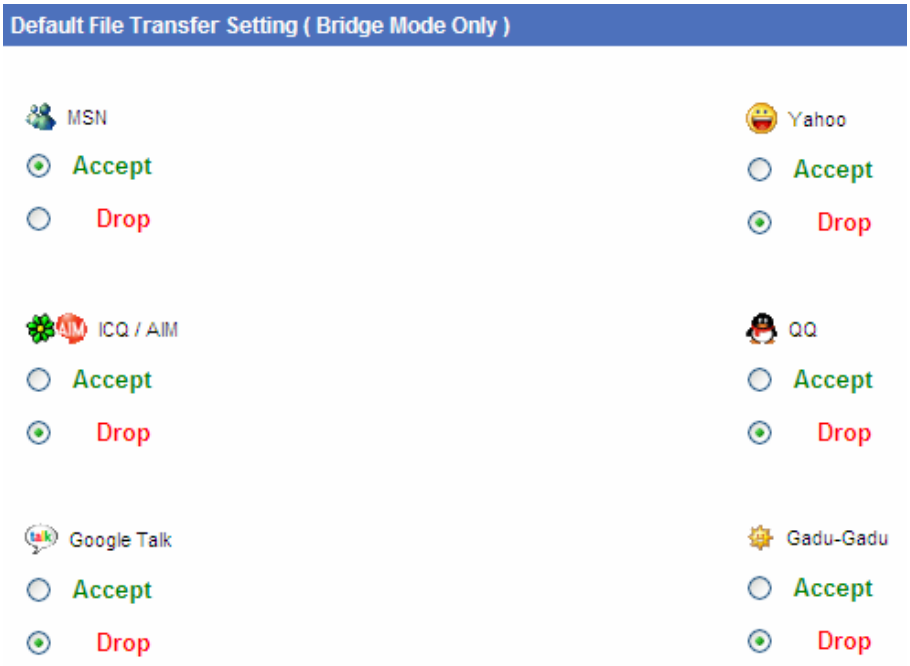
5. Click **[OK]** to save the configuration.

Step 3 Define default access rules

1. From the left menu bar, select **"IM Management > Rule > Default Rule"**.
2. In the "Default Login Rule Setting" area of the displayed interface, select the "Accept: Unencrypted message Drop: Encrypted message" rule for the **MSN** application. Block all other IM applications.



3. Scroll to the "Default File Transfer Setting" area at the bottom of this interface. Select to allow file transfer over MSN. Drop all file transfer attempts for other IM applications.



4. Click **[OK]** to save the default rule.

Step 4 Import user accounts

1. Create a “MSN_List.csv” file containing a list of all employees’ MSN accounts and the corresponding IP address. The figure below shows an example of this file.

MSN	user01@hotmail.com	Default	-	172.16.10.1	-	-
MSN	user02@hotmail.com	Default	-	172.16.10.2	-	-
MSN	user03@hotmail.com	Default	-	172.16.10.3	-	-
MSN	user04@hotmail.com	Default	-	172.16.10.4	-	-

Note:

Please refer to the “Reference” section below for more information on importing/exporting user IM account lists.

2. From the SifoScopes interface, select **“IM Management > Rule > Default Rule”** from the menu bar.
3. At the top of this interface, click **[Browse…]**.
4. Select the “MSN_List.csv” file to import the user list.

Step 5 Adjust individual account rules

1. From the left menu bar, select “IM Management > Rule > Account Rule”.
2. Click “**MSN**” at the top of the interface to navigate to the account rule lists for the MSN application. The accounts imported in Step 4 above should be shown in the top “MSN account of default rule” list.
3. Check the checkbox to the left of the user “172.19.20.0/24” in this list.
4. Click **[to Accept(No file transfer)]** from the top of the list. This user account will be moved to the “MSN Accept Account(No file transfer)” account rule list below.

Example 2 (Login Notice + Authentication + Default Rule)

The company's IM management policy is as follows:

- The following message will be displayed when users login for IM access:

```
Notice:

  All instant message will be logged by the SifoScopes System and
are subject to archival monitoring or disclosure to someone other
than the recipient.

=====================================================
请注意:

  实时通讯软件所传递的讯息或活动，将被 SifoScopes System 所记录。
```

- Users must be authenticated via a remote RADIUS server before they can access IM applications.

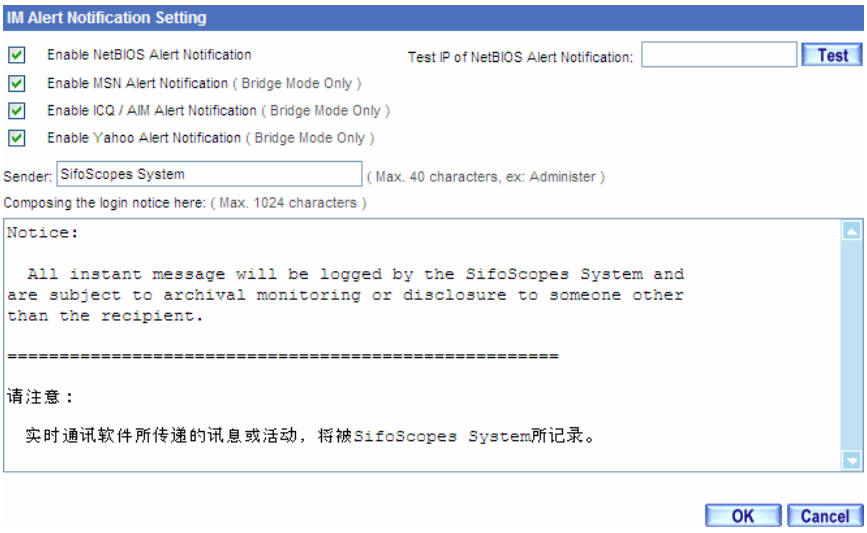
  IP address of the RADIUS server is 192.168.123.12:1812. Shared secret key is sifoRad.

A system administrator with read-write authority is assigned to complete this configuration. The procedure is as follows:

Step 1 Login to SifoScopes UI via the "admin" account.

Step 2 Enable login notice

1. From the left menu, select **"IM Management > Configure > Logon Notice"**.
2. Select **Enable NetBIOS Alert Notification**. Also enable alert notification for **MSN**, **ICQ / AIM** and **Yahoo** applications.
3. Enter the message into the **Content** textbox.


IM Alert Notification Setting
Enable NetBIOS Alert Notification
Test IP of NetBIOS Alert Notification:
Test
Enable MSN Alert Notification (Bridge Mode Only)
Enable ICQ / AIM Alert Notification (Bridge Mode Only)
Enable Yahoo Alert Notification (Bridge Mode Only)
Sender: SifoScopes System
(Max. 40 characters, ex: Administer)
Composing the login notice here: (Max. 1024 characters)
Notice:
All instant message will be logged by the SifoScopes System and
are subject to archival monitoring or disclosure to someone other
than the recipient.
请注意：
实时通讯软件所传递的讯息或活动，将被SifoScopes System所记录。
OK
Cancel

4. Click **[OK]** to save the configuration.

Step 3 Manage the RADIUS authentication server

1. From the left menu bar, select **"IM Management > Authentication > RADIUS"**.
2. Select Enable RADIUS Server Authentication and configure as follows:

   RADIUS Server (IP or Domain Name): 192.168.123.12

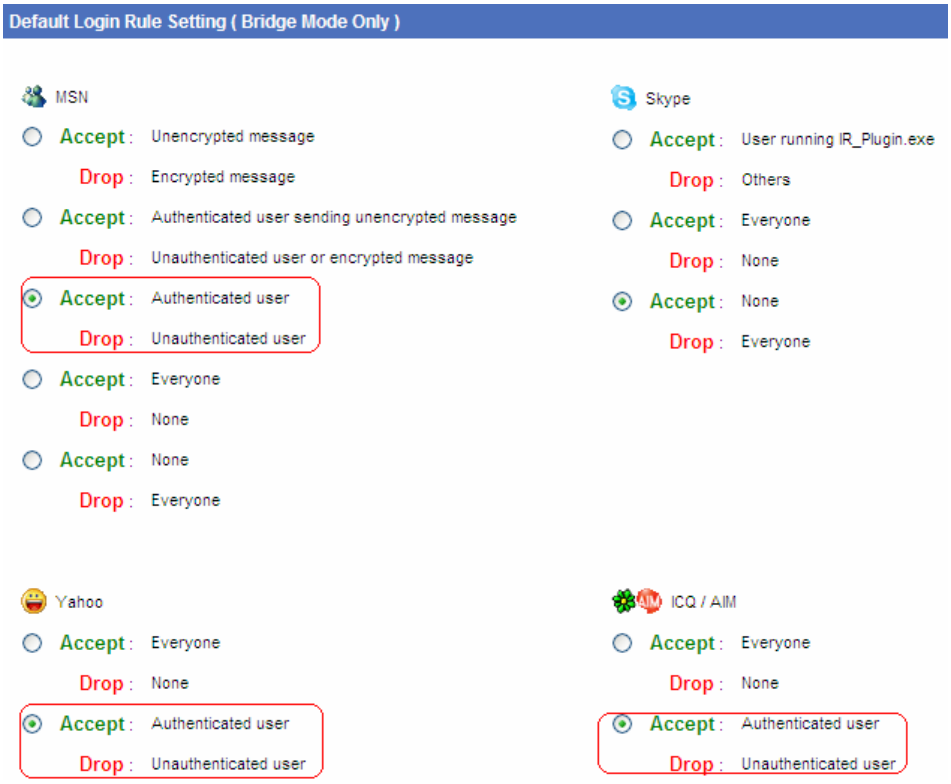
   RADIUS Server Port: 1812

   Shared Secret: sifoRad

3. Click **[OK]** to save the configuration.

Step 4 Define default rules to only allow IM applications by authenticated users

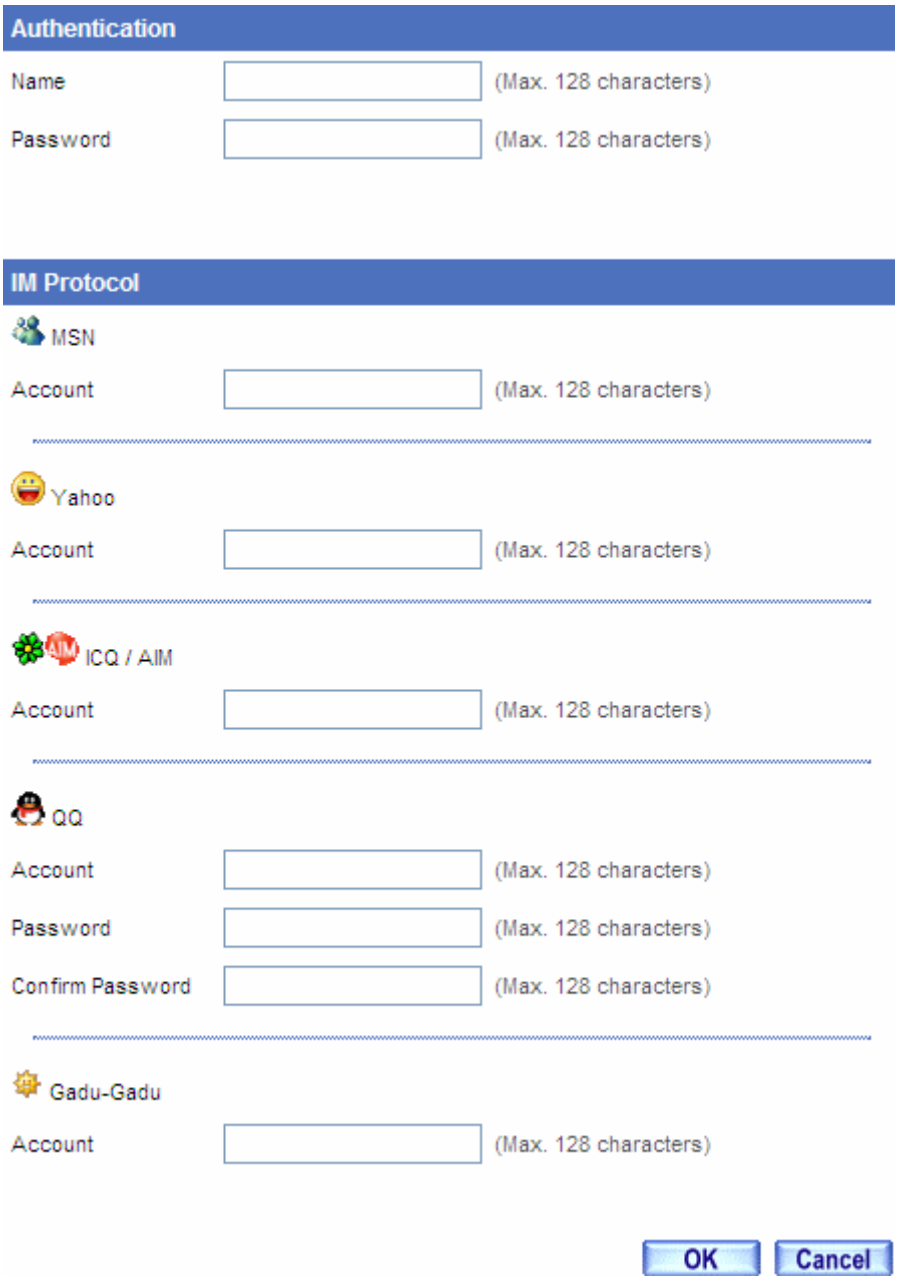
1. Select **"IM Management > Rule > Default Rule"**.
2. In the "Default Login Rule Setting" area of the displayed interface, select the "Accept: Authenticated user Drop: Authentication failure" rule.



Step 5 Click **[OK]** to save the default rule.

Note:

After completing the above configuration, users must first access the SifoScopes interface "http://*SifoScopes administrative IP*/auth" and enter their authentication information. They will only be able to access IM applications when they have been successfully authenticated.



Reference

From the **"IM Management > Rule > Default Rule"** interface, SifoScopes allows administrators to export IM account rule lists from the system into a .csv format file. Using an appropriate program, such as MS Excel, you can then modify or add account information to the exported list directly. Importing the edited file will then modify the IM accounts stored by SifoScopes.

Note:

Only modified or added accounts will be imported into the SifoScopes system. Deleting an account from the exported file will not delete this account from SifoScopes when the file is imported.

Rows beginning with the "#" character in the exported are comments and will not be imported into SifoScopes.

Within the .csv file, all rows beginning with the "#" character are comments and will not be read by the system when the file is imported. User accounts can be defined using 2 formats within the file including:

Note:

If the system binds user names using the AD server method, the "IP" and "MAC" columns in the 2 formats below will be replaced by a single "AD_User" column. This column will contain users' account name stored on the AD server.

- Format 1

IM_Type	Account	Rule	AuthName	IP	MAC	AuthType

  - Valid values for IM_Type column: MSN, Yahoo, QQ, ICA, Skype, GaduGadu and GoogleTalk.
  - Valid values for Rule column: Default, Accept, Drop
  - Valid values for AuthType column: USER, RADIUS, POP3, LDAP

- Format 2

IM_Type	IP	MAC	Rule

  - Valid values for IM_Type column: MSN, Yahoo, QQ, ICA, Skype, GaduGadu and GoogleTalk.
  - Valid values for Rule column: Default, Accept, Drop

The above Information on the format of the .csv file can also be found within the exported file. An example is shown below:

MSN	userA@hotmail.com	Drop	-	192.168.123.12	00:20:6E:30:A4:F0	-
MSN	userB@hotmail.com	Default	-	192.168.123.10	00:1E:C5:6D:49:1C	-
Yahoo	director	Accept	-	-	-	-
QQ	531022923	Drop	-	-	-	-
Skype	192.168.12.3	00:02:B8:C7:95:D5	Default			
GoogleTalk	user1@gmail.com	Accept	-	-	-	-
GoogleTalk	user2@gmail.com	Accept	-	-	-	-
GoogleTalk	user3@gmail.com	Accept	-	-	-	-
GoogleTalk	user4@gmail.com	Accept	-	-	-	-
GoogleTalk	user5@gmail.com	Accept	-	-	-	-
GoogleTalk	user6@gmail.com	Accept	-	-	-	-
GoogleTalk	user7@gmail.com	Accept	-	-	-	-
GoogleTalk	user8@gmail.com	Accept	-	-	-	-
GoogleTalk	user9@gmail.com	Accept	-	-	-	-
GoogleTalk	user10@gmail.com	Accept	-	-	-	-
QQ	169839202	Drop	-	-	-	RADIUS
QQ	169839231	Drop	-	-	-	RADIUS
QQ	169831302	Drop	-	-	-	RADIUS

From the **"IM Management > Rule > Account Rule"** interface, lists of user accounts for each IM rule is displayed. The icon displayed next to each account indicates the status of the account. This includes:

Icon	Status	Description
	Un-authenticated	This account has not yet been authenticated by the system
	Authentication Successful	This account has been authenticated by the system
	Valid Password	This icon is only displayed on the account rule lists for the QQ application. This indicates that the QQ account name and password specified by this user has been successfully verified. SifoScopes can record all messages transmitted via QQ for this account.
	Password validity is yet to be verified	This icon is only displayed on the account rule lists for the QQ application. This indicates that the user has not yet entered his QQ account name and password in SifoScopes or the specified password has not been verified. SifoScopes will not be able to record QQ messages transmitted for this account.
	Invalid Password	This icon is only displayed on the account rule lists for the QQ application. This indicates that the QQ password provided by this user is invalid. SifoScopes will not be able to record transmitted QQ messages for this account.

To view users' IM conversations recorded by SifoScopes, please refer to "4.4 Viewing Access Records According to Users" or "4.5 Viewing Access Records According to Service Type".

You can also view a log of all IM accesses by the users from the system. Please refer to "9.4 Monitoring System Status" for more information on the system's IM log.

5.3 Managing P2P Usage

SifoScopes P2P management function allows administrators to control accesses to P2P applications by internal users. Various P2P applications can be managed by SifoScopes including:

- WinMX
- Edonkey (including Emule)
- KuGoo
- AudioGalaxy
- iMesh
- Thunder5
- Bit Torrent
- Foxy
- Apple Juice
- Direct Connect
- MUTE

Note that P2P management can only be set up if SifoScopes is working in bridge mode.

For each P2P application, you can define default P2P access rules that is enforced on the majority of users, controlling whether accesses to each P2P application is allowed or blocked by default.

You can manually assign each user to specific account rules individually if there are users who require access differing from the default rule.

Configuration Procedure

Step 1 Login to SifoScopes UI via the “admin” account.

Step 2 Define default P2P access rule

1. From the left menu bar, select **“P2P Management > Default Rule”**.
2. In the interface displayed, select the radio button to the left of the “**Accept**” option to allow access to the corresponding P2P application. Select the button to the left of the “**Drop**” option to block access.

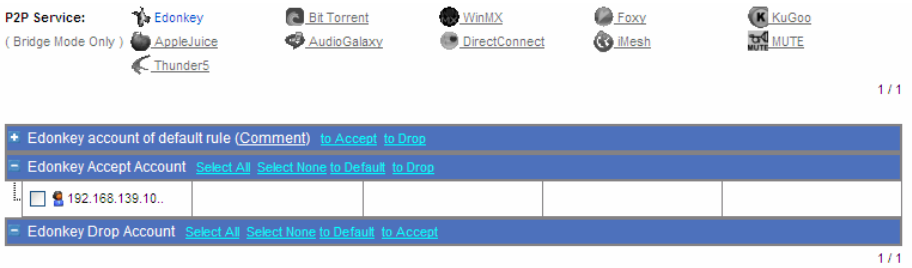
Note:

For the Thunder5 application, SifoScopes is only able to block downloading activities from the Thunder5 server. Users can still use Thunder5 to download files from HTTP or FTP sources.

3. Click **[OK]** to save the default rule.

Step 3 (Optional) Move users to specific account rules

1. Select **“P2P Management > User Rule”** from the left menu bar.
2. Click the name of the P2P application from the top of this interface. The system will display the account rules and users assigned to each rule for this P2P application.



3. From the “default rule” or “Drop Account” lists, select the users and click the “**to Accept**” link from the top of this list to move users to the “Accept Account” list. Users in the “Accept Account” list are allowed to access this P2P application
4. From the “default rule” or “Accept Account” lists, select the users and click the “**To Drop**” link to move users to the “Drop Account” list. Users in this list are not allowed to access this P2P application.
5. Repeat steps (2) to (4) to adjust the account rule list for the other P2P applications.

Chapter

6

Real-time Flow Analysis

This chapter includes the following:

- Overview

  Briefly explains SifoScopes real-time flow analysis function.

- Viewing Top 10 Charts for Today's Network Activities

  Describes, in detail, how to view charts showing the top 10 users, groups and services with the largest amount of traffic during any time period within the interval from 00:00am of the current day to the current time.

- Viewing History Top N Charts

  Introduces the system's history Top N charts which can help administrators understand the traffic flow generated by users, groups and services during a particular time period.

- Checking Flow Statistics

  Explains the flow statistical charts that can be viewed from the SifoScopes interface. These charts can be used to analyse changes to network traffic within a period of time.

Please read this chapter to understand and analyse the network traffic statistical data collected by SifoScopes.

6.1 Overview

SifoScopes “Flow Analysis” function generates real-time and history network traffic statistical data, helping network administrators to understand the utilization of the network’s bandwidth. The reports generated by the system include details on the traffic generated by each user and each service type, making it more convenient for administrators to manage and maintain the network.

The real-time flow analysis function is only supported by SifoScopes CM2000 and SifoScopes CM3000 devices. All other SifoScopes device models do not support this function.

6.2 Viewing Top 10 Charts for Today’s Network Activities

Using this function, you can view the top 10 users, groups or services that generated the largest amount of traffic flow during any time period within the interval from 0:00 of the current day to the current time.

Configuration Procedure

The procedure to view top 10 real-time traffic charts for the current day are as follows:

Step 1 Login to SifoScopes UI.

Step 2 From the left menu bar, select **“Flow Analysis > Today Top-10”** to view the top 10 charts for all traffic flow between 0:00 today till the current time.

Step 3 By moving the slider at the top of this page, you can select to only view top 10 charts for traffic flow from the selected time to the current time.

For example, moving the slider as shown in the figure below will refresh the top 10 charts to only include statistics of traffic generated between 12:08pm and 16:18pm today.

The following figures show the top 10 user, group and service real-time traffic charts.

User

8-Recorded Service Others

Top 10 (Click to view top service)

MBytes	12.65	10.40	6.69	4.98	0.25	0.10	0.03	0.02	0.01	0.01
Others 8-Recorded	11.46 MB 1.19 MB	10.40 MB 0.00 B	6.69 MB 0.00 B	4.91 MB 66.03 KB	183.38 KB 64.07 KB	85.03 KB 12.86 KB	18.60 KB 7.56 KB	8.00 KB 8.00 KB	13.72 KB 0.00 B	11.77 KB 0.00 B
Percentage	36.00%	29.61%	19.04%	14.17%	0.70%	0.28%	0.07%	0.05%	0.04%	0.03%
User Name	172.16.1.117	172.16.1.115	UTM	VISTA	AD	SifoML	172.16.1.69	Sucendo_100	172.16.1.230	172.16.1.148

Statistics Duration: **12:06 ~ 16:16** Total Flows: **35.12 MB** Average Flows: **18.73 KBits/Sec**

Department / Group

8-Recorded Service Others

Top 10 (Click to view top user)

MBytes	35.12									
Others 8-Recorded	33.78 MB 1.35 MB									
Percentage	100.00%									
Department / Group	Group_1									

Statistics Duration: **12:06 ~ 16:16** Total Flows: **35.12 MB** Average Flows: **18.73 KBits/Sec**

Service

8-Recorded Service Others

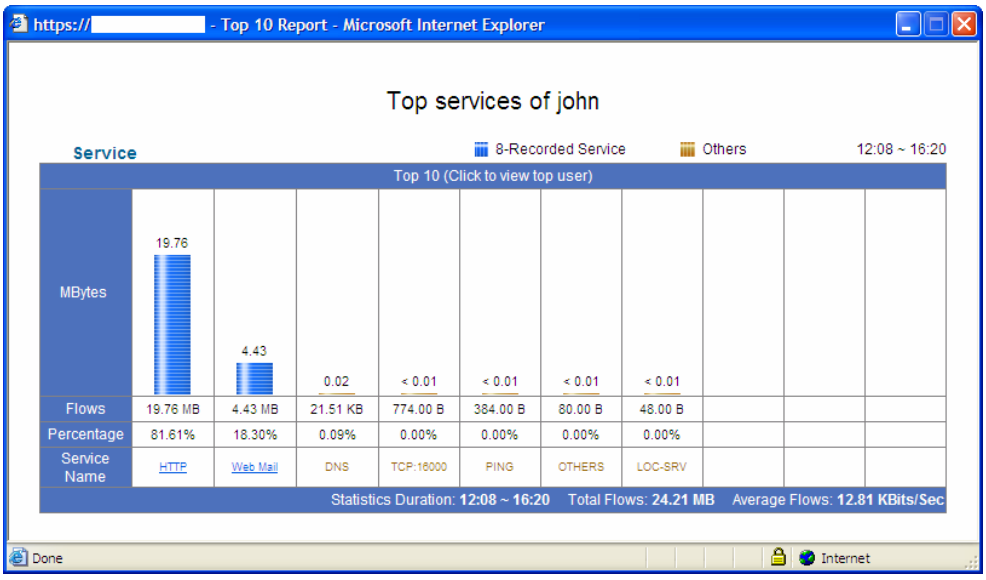
Top 10 (Click to view top user)

MBytes	17.06	16.07	0.89	0.46	0.28	0.19	0.08	0.07	0.02	< 0.01
Flows	17.06 MB	16.07 MB	888.95 KB	458.12 KB	279.19 KB	190.62 KB	79.35 KB	66.13 KB	17.22 KB	6.86 KB
Percentage	48.57%	45.75%	2.53%	1.30%	0.79%	0.54%	0.23%	0.19%	0.05%	0.02%
Service Name	SNMP	HTTPS	HTTP	IM	TCP:1132	DNS	TCP:5222	NETBIOS-DGM	SYSLOG	NETBIOS-NS

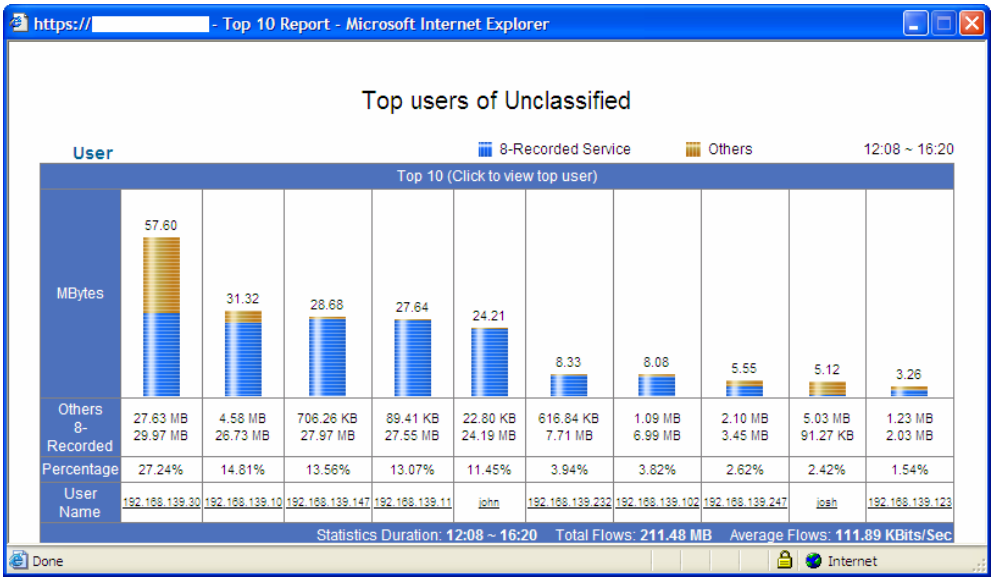
Statistics Duration: **12:06 ~ 16:16** Total Flows: **35.12 MB** Average Flows: **18.73 KBits/Sec**

Step 4 (Optional) For more in-depth analysis, you can view more detailed information for each user/group/service in the top 10 charts.

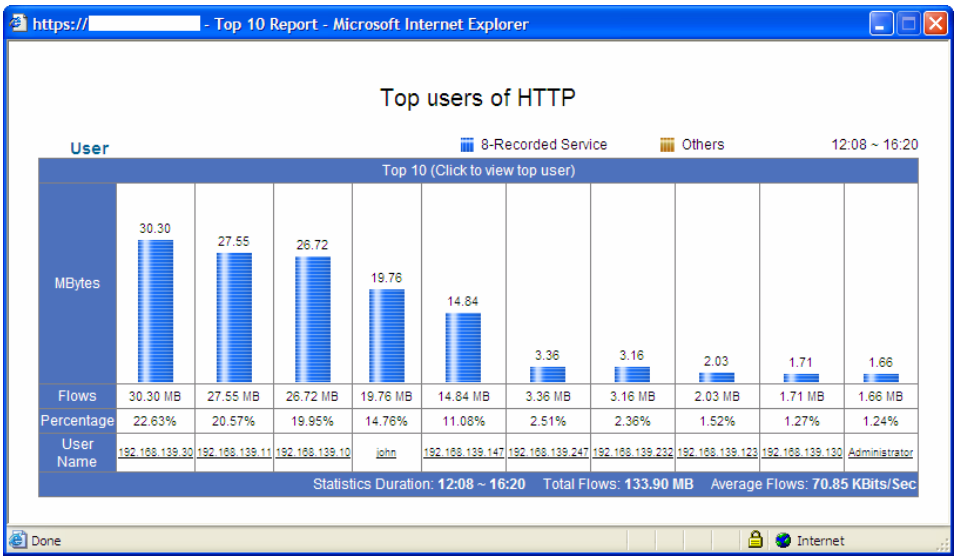
- From the top 10 “User” chart, click a hyperlinked user name from the **User Name** row. A top N chart ranking the top services accessed by this user will be displayed in a new window.



- From the top 10 “Department / Group” chart, click the group name from the **Department / Group** row to view the chart ranking the top 10 users of this group with the greatest amount of traffic generated.



- From the top 10 “Service” chart, click the name of the service from the **Service Name** row. A new window will appear, displaying the top 10 users of this service during this period of time.



6.3 Viewing History Top N Charts

Using this function, you can view the top N users, groups or services that generated the largest amount of traffic flow between any history time period during the system’s uptime.

Configuration Procedure

The procedure to view top N history traffic charts are as follows:

Step 1 Login to SifoScopes UI.

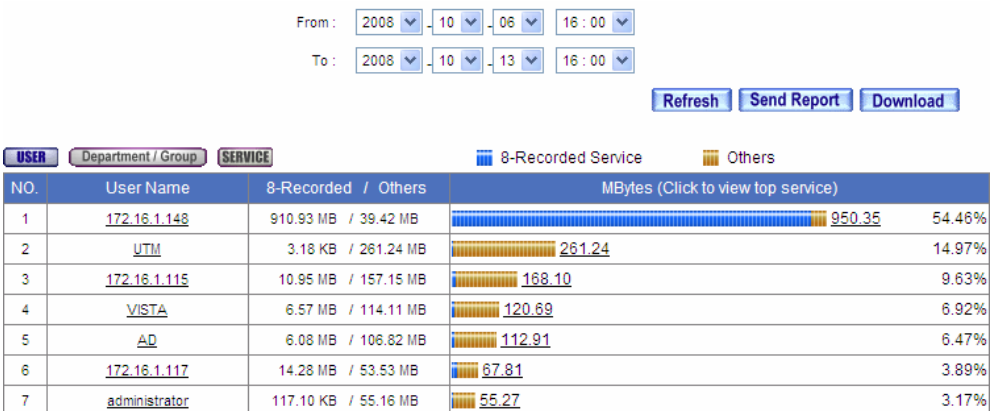
Step 2 Select **“Flow Analysis > History Top-N”** from the left menu bar.

Step 3 From the top of the interface displayed, specify the date and time interval using the **From** and **To** drop down menus. Click **[Refresh]** to display top N statistics for traffic generated during the time interval specified.

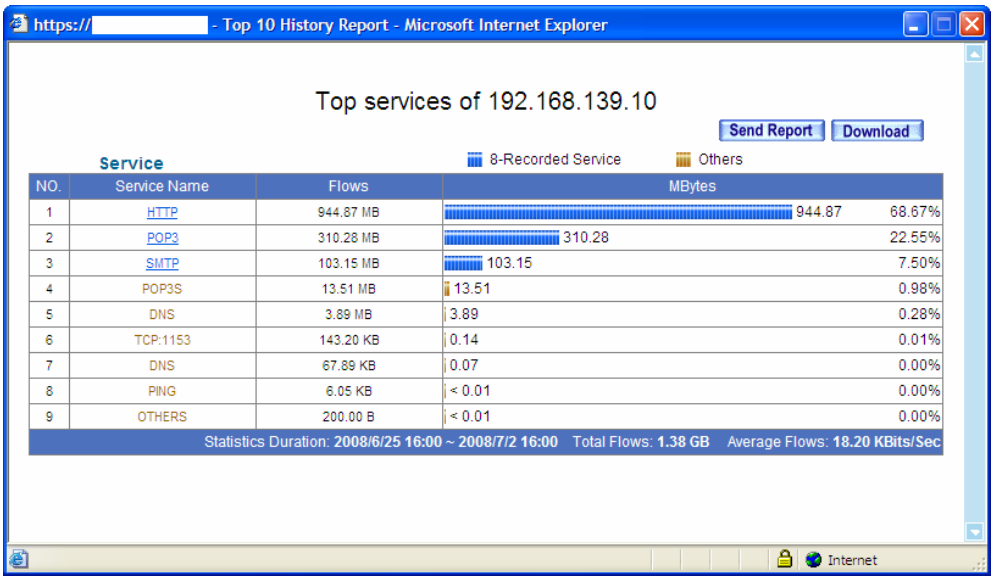
Step 4 (Optional) Click the **[User]** button at the top left corner of the list to view the top N chart ranked based on users.

Note:

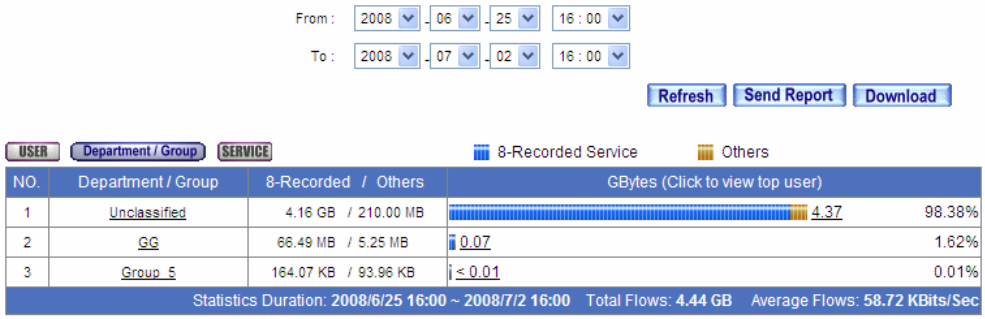
Click **[Refresh]** to refresh the displayed top N chart. Click **[Send Report]** to send the displayed top N list to specified recipients via email. Click **[Download]** to export the list into a file stored in your local PC.


From : 2008 10 06 16 : 00
To : 2008 10 13 16 : 00
Refresh
Send Report
Download
USER
Department / Group
SERVICE
8-Recorded Service
Others
NO. User Name 8-Recorded / Others MBytes (Click to view top service)
1 172.16.1.148 910.93 MB / 39.42 MB 950.35 54.46%
2 UTM 3.18 KB / 261.24 MB 261.24 14.97%
3 172.16.1.115 10.95 MB / 157.15 MB 168.10 9.63%
4 VISTA 6.57 MB / 114.11 MB 120.69 6.92%
5 AD 6.08 MB / 106.82 MB 112.91 6.47%
6 172.16.1.117 14.28 MB / 53.53 MB 67.81 3.89%
7 administrator 117.10 KB / 55.16 MB 55.27 3.17%

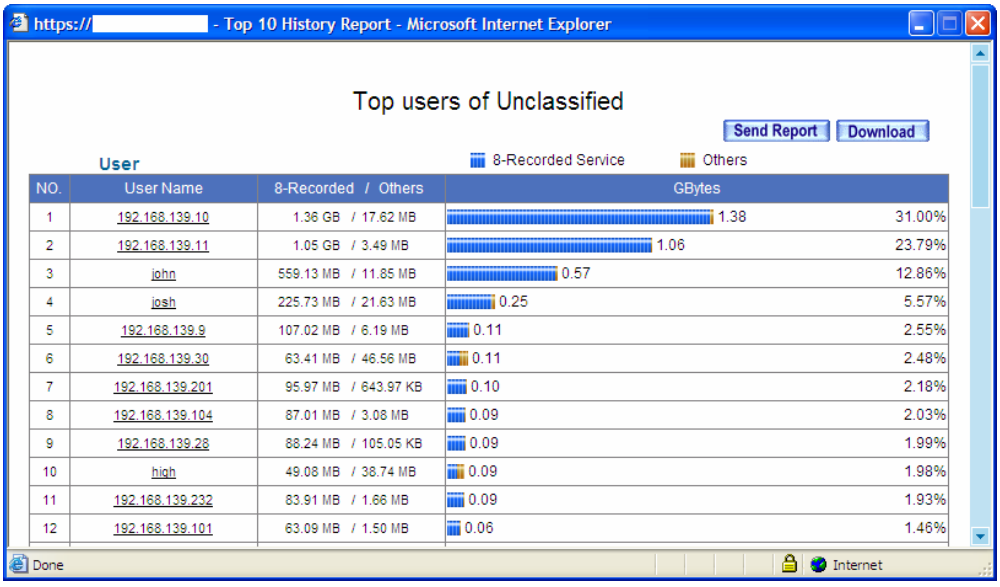
Click the hyperlinked **User Name** to open a new window displaying a Top N chart ranking the services accessed by this user.


https:// - Top 10 History Report - Microsoft Internet Explorer
Top services of 192.168.139.10
Send Report
Download
Service
8-Recorded Service
Others
NO. Service Name Flows MBytes
1 HTTP 944.87 MB 944.87 68.67%
2 POP3 310.28 MB 310.28 22.55%
3 SMTP 103.15 MB 103.15 7.50%
4 POP3S 13.51 MB 13.51 0.98%
5 DNS 3.89 MB 3.89 0.28%
6 TCP:1153 143.20 KB 0.14 0.01%
7 DNS 67.89 KB 0.07 0.00%
8 PING 6.05 KB < 0.01 0.00%
9 OTHERS 200.00 B < 0.01 0.00%
Statistics Duration: 2008/6/25 16:00 ~ 2008/7/2 16:00 Total Flows: 1.38 GB Average Flows: 18.20 KBits/Sec
Internet

Step 5 (Optional) Click the **[Department / Group]** button at the top left corner of the list to view the top N chart ranked based on user groups.


From : 2008 06 25 16 : 00
To : 2008 07 02 16 : 00
Refresh
Send Report
Download
USER
Department / Group
SERVICE
8-Recorded Service
Others
NO. Department / Group 8-Recorded / Others GBytes (Click to view top user)
1 Unclassified 4.16 GB / 210.00 MB 4.37 98.38%
2 GG 66.49 MB / 5.25 MB 0.07 1.62%
3 Group_5 164.07 KB / 93.96 KB < 0.01 0.01%
Statistics Duration: 2008/6/25 16:00 ~ 2008/7/2 16:00 Total Flows: 4.44 GB Average Flows: 58.72 KBits/Sec

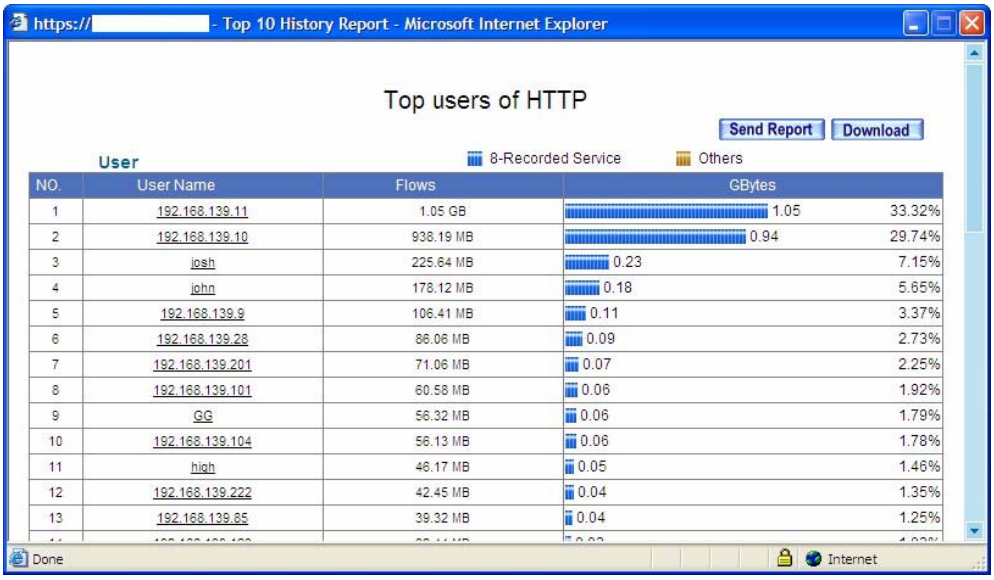
Click the hyperlinked **Department / Group** name to open a new window displaying a Top N chart ranking the users (according to traffic flow) in this group.



Step 6 (Optional) Click the **[Service]** button at the top left corner of the list to view the top N chart ranked based on service types.

NO.	Service Name	Flows	GBytes (Click to view top user)	
1	HTTP	3.15 GB	3.15	72.06%
2	Web Mail	485.87 MB	0.49	11.10%
3	POP3	395.68 MB	0.40	9.04%
4	SMTP	136.77 MB	0.14	3.12%
5	HTTPS	39.78 MB	0.04	0.91%
6	IMAP	24.57 MB	0.02	0.56%
7	TCP:12350	20.51 MB	0.02	0.47%
8	IM	16.91 MB	0.02	0.39%
9	POP3S	13.49 MB	0.01	0.31%
10	DNS	13.19 MB	0.01	0.30%
11	TCP:1117	6.92 MB	< 0.01	0.16%
12	TCP:5900	5.90 MB	< 0.01	0.13%

Click the hyperlinked **Service Name** to open a new window displaying a Top N chart ranking the users (according to traffic flow) accessing this service.



NO.	User Name	Flows	GBytes	
1	192.168.139.11	1.05 GB	1.05	33.32%
2	192.168.139.10	938.19 MB	0.94	29.74%
3	josh	225.64 MB	0.23	7.15%
4	john	178.12 MB	0.18	5.65%
5	192.168.139.9	106.41 MB	0.11	3.37%
6	192.168.139.28	86.06 MB	0.09	2.73%
7	192.168.139.201	71.06 MB	0.07	2.25%
8	192.168.139.101	60.58 MB	0.06	1.92%
9	GG	56.32 MB	0.06	1.79%
10	192.168.139.104	56.13 MB	0.06	1.78%
11	high	46.17 MB	0.05	1.46%
12	192.168.139.222	42.45 MB	0.04	1.35%
13	192.168.139.85	39.32 MB	0.04	1.25%

6.4 Checking Flow Statistics

SifoScopes generates graphs displaying network traffic generated for the past 1 day, 1 hour or 5 minute. These graphs help administrators analyse changes to network traffic during these time periods.

Configuration Procedure

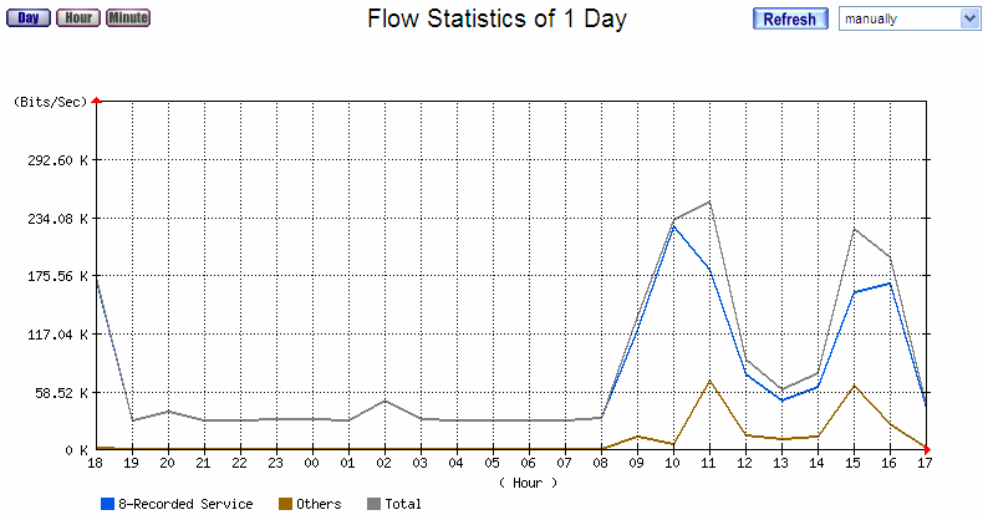
Step 1 Login to SifoScopes UI.

Step 2 From the left menu bar, select **"Flow Analysis > Flow Statistics"**.

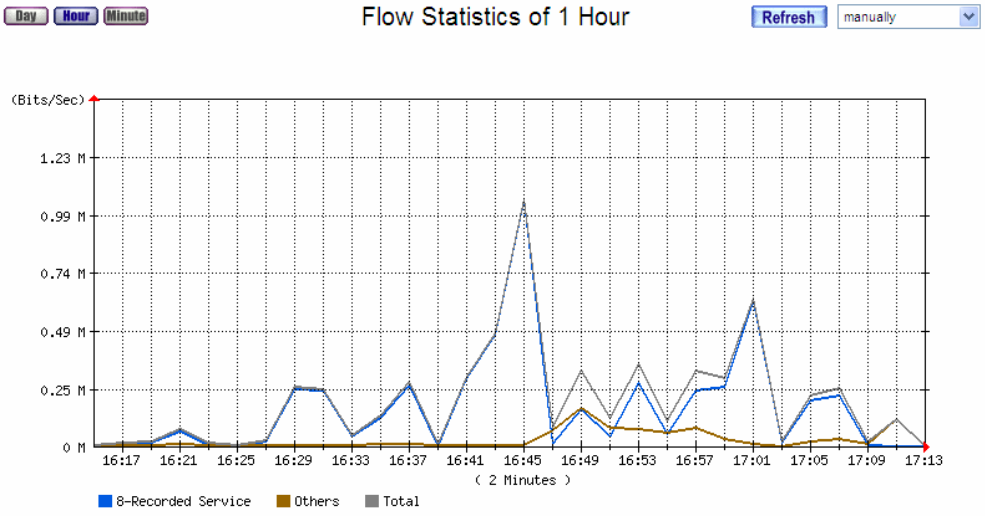
Step 3 (Optional) to view the statistical graph for traffic generated within the past 1 day, click **[Day]** from the top left corner of this page.

Note:

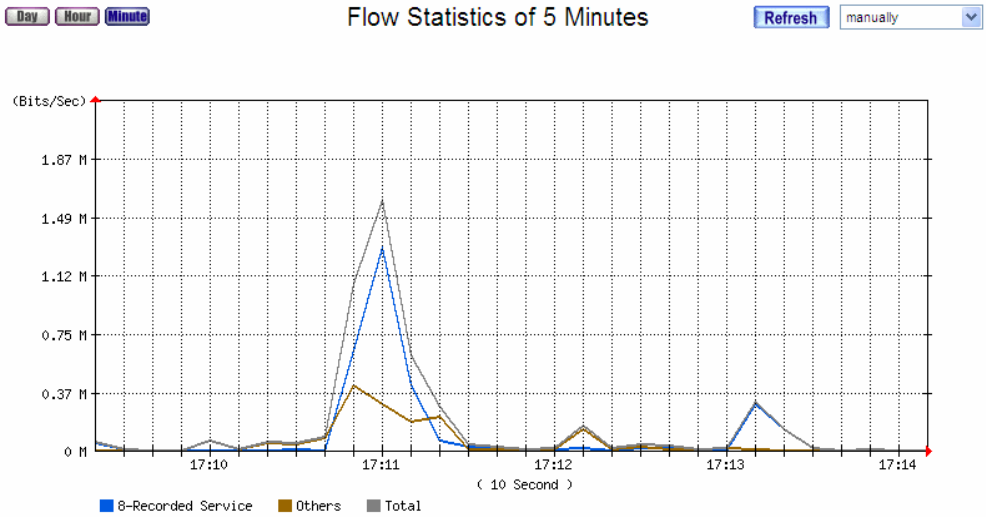
To refresh the graph only when administrators click the **[Refresh]** button, select "manually" from the drop down menu at the top right corner of the graph. You can also set up SifoScopes to automatically refresh the displayed graph every 3, 10 or 30 seconds. Simply select the desired interval from the drop down menu.



Step 4 (Optional) Click **[Hour]** to view the flow statistics graph for the past 1 hour.



Step 5 (Optional) Click **[Minute]** to view the statistics graph for traffic flow generated in the past 5 minutes.



Chapter

7

Anomaly Flow Detection

This chapter includes the following:

- Overview

  Briefly introduces the aim of this chapter.

- Activating Anomaly Flow Detection

  Explains the anomaly flow detection function and how to configure the system to detect and block suspicious IP addresses.

- Monitoring Detected Suspicious IP

  Guides you through the various logs collected by SifoScopes for monitoring of the detected suspicious IP.

7.1 Overview

SifoScopes “Anomaly Flow IP” function allows administrators to specify a threshold value, monitoring all traffic generated by network users. When an abnormally large amount of traffic is generated by a particular IP (due to internal addresses becoming infected with virus or external intrusion attempts), the system can automatically detect and block the address, preventing such activities from crippling the network. Administrators will be able to view a list of all blocked addresses from the SifoScopes system.

This function also includes a co-defense system with third-party switches. When SifoScopes detects and blocks a suspicious IP address, the system can inform a switch deployed in the network. The switch can then block this IP address, providing a more frontline layer of defense to ensure network stability.

7.2 Activating Anomaly Flow Detection

This section guides you through the procedure to enable SifoScopes “Anomaly Flow IP” function.

Configuration Procedure

The configuration procedure is as follows:

Step 1 Login to SifoScopes UI via the “admin” account.

Step 2 Select **“Anomaly Flow IP > Setting”** from the left menu bar.

Step 3 Make the necessary configurations in the “Anomaly Flow IP Setting” area of this interface.

Step 4 Click **[OK]** to save the settings.

Step 5 (Optional) Specify non detected IP addresses

1. In the “Non-detected IP” area at the bottom of this interface, click **[New Entry]** to view the “Add new IP Address” interface.
2. Here, you can either specify a specific IP address (with netmask 255.255.255.255) or enter a subnet address. All addresses within this subnet will not be monitored for flow anomaly.
3. Click **[OK]** to add this address.
4. Repeat (1) to (3) to add other addresses that will not be monitored for flow anomaly.

Reference

The configurable parameters in the **"Anomaly Flow IP > Setting"** interface are explained below.

Parameter Name	Explanation	Configuration
The threshold sessions of anomaly flow (per Source IP)	When the number of sessions established per second by a single IP address exceeds this value, SifoScopes detects this IP as a flow anomaly and performs the appropriate actions.	[How to Configure] Enter the value in the textbox [Range] 1 – 9999 [Default] 100
Enable Anomaly Flow IP Blocking	When enabled, suspicious IP addresses detected by the system will be temporarily blocked.	[How to Configure] Check the checkbox to enable
Blocking Time	The amount of time to block each suspicious IP address if **Anomaly Flow IP Blocking** is enabled	[How to Configure] Enter the value in the textbox
Enable E-Mail Alert Notification	If this is enabled, the system will send an email notification to the administrator(s) when a flow anomaly is detected. You must set up email notification from the **"System > Setting"** interface before enabling this function. Please refer to "3.4 Configuring Basic System Parameters" for more information.	[How to Configure] Check the checkbox to enable
Enable NetBIOS Alert Notification	If enabled, the system sends a NetBIOS message to both the administrator and the user corresponding to the IP address detected to be generating a flow anomaly.	[How to Configure] Check the checkbox to enable
IP Address of Administrator	The IP address of the administrator to notify if **NetBIOS Alert Notification** is enabled	[How to Configure] Enter the IP address in the textbox

Parameter Name	Explanation	Configuration
Enable Co-Defense System	If enabled, whenever a suspicious IP address is detected, SifoScopes notifies the connected core switch to block this address.	[How to Configure] Check the checkbox to enable
Switch Model	If **Co-Defense System** is enabled, select the switch model from the following list: • Alcatel 6300 • SMC 6128L2 • SMC 6726AL2 • ML-9260 • ML-9280 • Planet WGSW-2840 • Planet WGSW-5240 • SH-6926GX	[How to Configure] Select the appropriate model from the drop down menu
IP Address of switch / Username / Password	These parameters are used to connect SifoScopes to the switch and can only be configured if **Co-Defense System** is enabled.	[How to Configure] Enter the values in the textboxes.

7.3 Monitoring Detected Suspicious IP

When a flow anomaly is detected, SifoScopes will perform the following operations depending on the “Anomaly Flow IP Setting” configuration:

- Send alert notifications to the administrator and the user corresponding to the detected IP address if email alert notification and NetBIOS alert notification is enabled.
- Blocks the IP address for a period of time if **Anomaly Flow IP Blocking** is enabled.
- Notifies a third-party switch to block the detected IP address if **Co-Defense System** is enabled.

SifoScopes logs information on all IP addresses blocked due to flow anomaly. The system separates blocked IP into 2 log lists. This includes:

- Virus-infected IP

  The virus infected IP log records information on all internal IP addresses that were blocked by the “Anomaly Flow IP” function. The information recorded for each log record includes the **User Name** and **MAC** address of the workstation using this IP address, the blocked IP, and the time this IP was blocked.

- Intrusion IP

  The intrusion IP log records information on all IP addresses from unknown sources that were blocked by the “Anomaly Flow IP” function. The information recorded for each log record includes the blocked IP, and the time it was blocked.

Configuration Procedure

Step 1 Login to SifoScopes UI.

Step 2 Select **“Anomaly Flow IP > Virus-Infected IP”** from the left menu bar to view the list of all internal IPs that were blocked by SifoScopes.

Step 3 From the left menu bar, select **“Anomaly Flow IP > Intrusion IP”** to view the list of all external IP addresses that were blocked by the system.

Chapter

8

Remote Backup Management

The following functions are explained in this chapter

- Overview

  Briefly introduces SifoScopes remote backup management function.

- Set up Remote Backup

  Explains detailed information on how to configure connection to a remote backup server, specify the type of services that should be included during a backup operation and set up backup time. You can also check the system's hard disk utilization and enable backup notification via email through this function.

- Browsing Backup Data Remotely

  Describes how to browse backup history data from the backup server remotely.

We recommend that you read this chapter when you need to set up the system to backup network activity records to a remote server or browse previously backup data from the remote server.

8.1 Overview

SifoScopes provides a comprehensive data backup mechanism that is able to backup local data to a remote NAS (network attached storage) or file server. Administrators can manually initiate backup operations or set up the system to automatically perform backup operations periodically. Backup data stored on the backup server can also be browsed remotely via the SifoScopes administrative UI directly.

8.2 Set up Remote Backup

Here, you can set up SifoScopes to connect to a remote backup server, specify the type of services to backup records of, time at which the system performs a backup operation automatically, view hard disk utilization and enable email notification after each backup operation.

Configuration Procedure

Step 1 Login to SifoScopes UI using a read/write administrator account.

Step 2 From the left menu bar, select **"Remote Backup > Setting > Backup Setting"** to view the configuration interface.

Step 3 In the "E-mail Setting" area, you can set up the system to send an email notification after each backup operation.

To enable this function, check the "**The recorder appliance sends mail notice after backup had completed"** checkbox.

📖 Note:

You must first enable and set up email notification from the **"System > Setting"** interface before you can enable this function. Please refer to "3.4 Configuring Basic System Parameters" for details.

Step 4 From the "Backup Setting" area, specify the IP or computer name of the remote NAS or file server, the directory on the server to save the backup files to and the login ID and password used by SifoScopes to login to the server.

Next, select the types of services whose records are to be included in each backup operation. Also select the time during which the system performs a backup automatically.

Step 5 (Optional) To check if the system is able to connect to the remote server, click the "**Test**" link. From the new window that appears, click **[Connection Test]** to begin the connectivity test. The result of the test will be displayed.

Step 6 (Optional) To manually perform a backup operation immediately, scroll to the “Backup Immediately” area of the configuration interface. Check the checkbox next to the **From** field and specify time interval of the records to include in the backup. Next, select the service types to be included.

Step 7 Click **[OK]** to save the configuration. A success message should be displayed.

8.3 Browsing Backup Data Remotely

This function allows you to browse the backup data stored on the remote server.

Read-only administrator accounts will be able to browse stored backup data from the remote server. However, if any modifications to the browse settings (such as remote server’s IP address/domain name etc.) are necessary, you must login to the system using a read/write access account.

Configuration Procedure

Step 1 Login to SifoScopes UI.

Step 2 (Optional) Modify browse settings, ensuring that the system is connected to the correct remote server.

1. Select **“Remote Backup > Setting > Browse Setting”** from the left menu bar.
2. From the interface displayed, enter the IP address or computer name of the remote NAS or file server, the server directory where backup files are stored and the login ID and password used by the system to login to the remote server.
3. (Optional) To check if the system is able to connect to the remote server, click the “**Test**” link. From the new window that appears, click **[Connection Test]** to begin the connectivity test. The result of the test will be displayed.
4. Click **[OK]** to save the configuration.

Step 3 From the left menu bar, select **“Remote Backup > Setting > Browse Setting”** and check the connection status of SifoScopes with the currently specified remote server.

This information can be viewed in the “Connection Status of Remote Hard Disk” area at the top of this interface. Please proceed to Step 4 if a “Connection Status: Success” message, indicating that the system is connected to the remote server is displayed. Otherwise, please return to Step 2 above.

Step 4 Browse backup data

You can browse backup data according to service types. The menu options include:

- Select **"Remote Backup > Browse > SMTP"** to view all backup SMTP records.
- Select **"Remote Backup > Browse > POP3/IMAP"** to view all backup POP3/IMAP records.
- Select **"Remote Backup > Browse > HTTP"** to view all backup HTTP records.
- Select **"Remote Backup > Browse > IM"** to view all backup IM records.
- Select **"Remote Backup > Browse > Web SMTP"** to view all backup Web SMTP records.
- Select **"Remote Backup > Browse > Web POP3"** to view all backup Web POP3 records.
- Select **"Remote Backup > Browse > FTP"** to view all backup FTP records.
- Select **"Remote Backup > Browse > Telnet"** to view all backup Telnet records.

Note:

To search for records satisfying certain criteria, click the icon and enter your search criteria. Click **[Search]** to begin searching the backup records. This search function is similar to that provided in the "**Record**" function. For details on the search function, please refer to "4.4 Viewing Access Records According to Users" and "4.5 Viewing Access Records According to Service Type".

Chapter

9

System Maintenance

This chapter includes the following sections:

- Overview

  Briefly introduces the main operations included in the system maintenance function.

- Managing the Local Hard Disk

  Explains how to view and manage the usage of SifoScopes' local hard disk.

- Viewing Statistical Reports

  Describes the various reports that you can generate to monitor hard disk utilization including yearly, monthly, weekly and daily reports.

- Monitoring System Status

  Allows you to view system performance data, check the list of currently established sessions, IM/P2P and system event logs to understand the system's overall operating status.

- Restoring System Data

  Guides you through the procedure to restore system setting to factory default, format hard disk, check/repair system's database, helping you restore the system in the event of system failures.

Please refer to this chapter when performing various system maintenance operations.

9.1 Overview

This set of operations introduces the various system maintenance functions provided by SifoScopes. This includes hard disk management, disk usage statistical reports, system resource utilization and data restoration.

9.2 Managing the Local Hard Disk

A local hard disk is built into the SifoScopes device used to store records of user online activities logged by SifoScopes. To optimize the utilization of this local disk, the system allows administrators to specify the amount of time records are stored for each type of online service.

Configuration Procedure

To manage the storage period for each service type, complete the following procedure:

Step 1 Login to SifoScopes UI via a read/write administrator account.

Step 2 (Optional) View hard disk utilization

1. Select **“Local Disk > Disk Space”** from the left menu bar.
2. The total utilization of the local hard disk is shown using a colored bar at the top of this interface. Each color in the bar represents a different service. (White represents unused disk space).
3. Click the **[User Name]** or **[Department / Group]** buttons to view the top N charts ranking each user or group according to the total amount of hard disk taken up by each user’s/group’s records for each service type.

Step 3 Specify storage time

1. From the left menu bar, select **“Local Disk > Storage Time”**.
2. In the displayed interface, specify the **Storage Time** in units of days for each service protocol.

Total Hard Disk Space : 239 GB

Service	Duration (y/m/d)	Avg. Size / Day	Storage Time (0: Not Record)	Estimated Storage Utilization* (Percentage)
SMTP	08/09/22 ~ 08/10/13	4.19 MB	365 Days	1.53 GB (0.60%)
POP3 / IMAP	08/09/22 ~ 08/10/13	148.41 KB	365 Days	54.17 MB (0.02%)
HTTP	08/09/22 ~ 08/10/13	1 KB	365 Days	1 KB (0.00%)
IM	08/09/22 ~ 08/10/13	1.48 KB	365 Days	541.29 KB (0.00%)
Web SMTP	08/10/13 ~ 08/10/13	1 KB	365 Days	1 KB (0.00%)
Web POP3	08/09/22 ~ 08/10/13	36.14 KB	365 Days	13.19 MB (0.01%)
FTP	08/09/22 ~ 08/10/13	52.19 MB	365 Days	19.05 GB (7.42%)
TELNET	08/09/22 ~ 08/10/13	1 KB	365 Days	314.26 KB (0.00%)
Total				20.65 GB (8.05%)

*Estimated Storage Utilization = Avg. Size * Storage Time Help

OK Cancel

Step 4 Click **[OK]** to save the configuration.

Reference

The system automatically deletes all records older than the storage time specified here. To archive records for long term storage, you can backup records to a remote hard disk. Please refer to “8 Remote Backup Management” for more information.

9.3 Viewing Statistical Reports

You can set up SifoScopes to generate and send hard disk utilization and traffic reports to the specified administrators periodically via email. The system can generate yearly, monthly, weekly and daily storage and traffic reports.

Reports are sent to the administrators' email as a .PDF format file.

Configuration Procedure

The configuration procedure is as follows:

Step 1 Login to SifoScopes UI via a read/write administrator account.

Step 2 (Optional) Enable automatic sending of reports periodically

1. From the left menu bar, select **"Report > Setting"**.
2. At the top of the displayed interface, select **Enable E-mail periodic report** and select the reports to send.
3. Click **[OK]** to save the setting.

Step 3 (Optional) Generate and send history reports

1. Select **"Report > Setting"** from the left menu bar.
2. From the bottom half ("History Report") of the interface, select the report to generate.
3. From the corresponding drop down menu(s) to the right, specify the time interval of records to include in the report.
4. Click **[Send Report]** to send the history yearly report to the administrator's email address.

   Note:

   Both traffic and storage reports are included in each send report operation.

Step 4 (Optional) Viewing network traffic reports for the current year, month, week or day, categorized according to the protocols used (TCP, UDP and ICMP).

1. Select **"Report > Traffic Report"** from the left menu bar.
2. In this interface, you can:
   - Click **[Year]** to view the traffic report for the current year.
   - Click **[Month]** to view the traffic report for the current month.
   - Click **[Week]** to view the traffic report for the current week.
   - Click **[Day]** to view the traffic report for the current day.

   An example of a day report is shown in the figure below.

Protocol

NO.	Protocol Name	Flow	MBytes
1	UDP	41.39 MB	41.39 53.08%
2	TCP	36.58 MB	36.58 46.92%
3	ICMP	1.55 KB	< 0.01 0.00%

Statistics Duration: **2008/10/13 ~ 2008/10/13** Total Flow: **77.97 MB**

TCP 8-Recorded Service Others

NO.	Service Name	Flow	MBytes
1	HTTPS	30.05 MB	30.05 82.14%
2	TCP:1132	4.09 MB	4.09 11.18%
3	HTTP	1.44 MB	1.44 3.93%
4	IM	855.66 KB	0.86 2.34%
5	TCP:5222	120.64 KB	0.12 0.33%
6	TCP:1119	9.53 KB	< 0.01 0.03%
7	LOC-SRV	5.92 KB	< 0.01 0.02%
8	TCP:1096	5.65 KB	< 0.01 0.02%
9	DNS	4.02 KB	< 0.01 0.01%
10	AFS3-CALLBACK	2.22 KB	< 0.01 0.01%

Statistics Duration: **2008/10/13 ~ 2008/10/13** Total Flow: **36.58 MB**

UDP

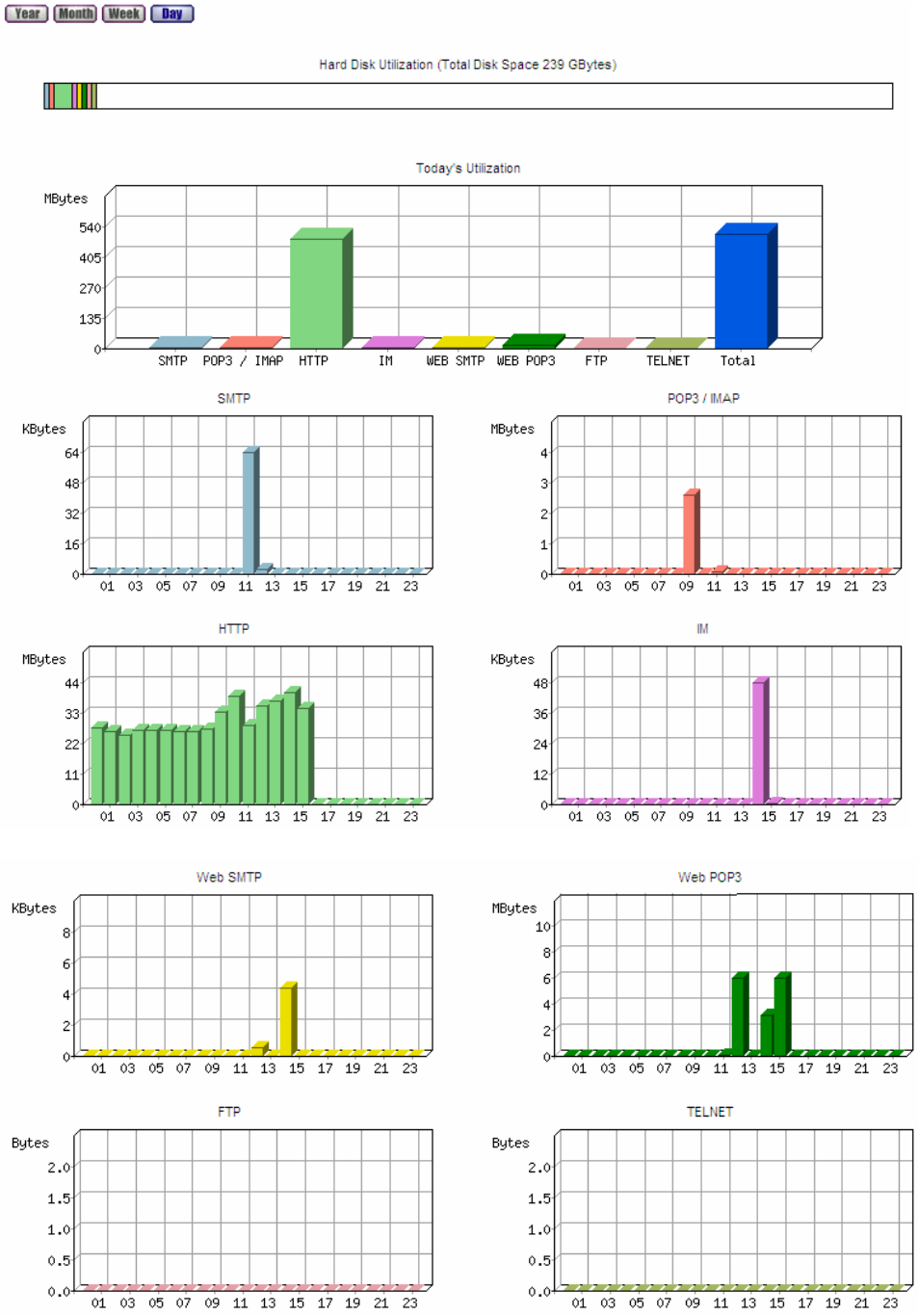
NO.	Service Name	Flow	MBytes
1	SNMP	37.73 MB	37.73 90.94%
2	UDP:5060	2.85 MB	2.85 6.87%
3	DNS	533.51 KB	0.53 1.29%
4	NETBIOS-DGM	234.43 KB	0.23 0.57%
5	UDP:5003	52.67 KB	0.05 0.13%
6	UDP:3478	34.00 KB	0.03 0.08%
7	SYSLOG	23.04 KB	0.02 0.06%
8	NETBIOS-NS	22.70 KB	0.02 0.05%
9	UDP:3479	7.34 KB	< 0.01 0.02%
10	NAMESERVER	1.10 KB	< 0.01 0.00%

Statistics Duration: **2008/10/13 ~ 2008/10/13** Total Flow: **41.49 MB**

Step 5 (Optional) Viewing system storage reports for the current year, month week or day.

1. From the left menu bar, select **“Report > Storage Report”**.
2. From the interface displayed, you can:
   - Click **[Year]** to view the storage report for the current year.
   - Click **[Month]** to view the storage report for the current month.
   - Click **[Week]** to view the storage report for the current week.
   - Click **[Day]** to view the storage report for the current day.

   An example of a day report is shown in the figure below.



Reference

The schedule for generation and sending of periodic reports are:

- Yearly reports

  Yearly reports are generated at 00:00 on the 1st of January of each year. The report will include all storage utilization and network traffic statistics for the past 1 year.

- Monthly reports

  Monthly reports are generated at 00:00 on the 1st of each month. The report will include all storage utilization and network traffic statistics for the past 1 month.

- Weekly reports

  Yearly reports are generated at 00:00 on the 1st day of each week. The report will include all storage utilization and network traffic statistics for the past 1 week.

- Daily reports

  Yearly reports are generated at 00:00 daily. The report will include all storage utilization and network traffic statistics for the past 1 day.

Reports are sent to the administrators via email attached as a .PDF format file. Using the acrobat reader or similar programs, the administrator can open the .PDF report file sent to his email address to view the report.

You must have already set up email notification from the **"System > Setting"** interface. Please refer to "3.4 Configuring Basic System Parameters" for information on email notification configurations.

9.4 Monitoring System Status

System monitoring allows administrators to check various system status including resource utilization, current sessions and their corresponding traffic flow established in the network that are monitored by SifoScopes. The system also provides IM/P2P and event logs, recording all IM/P2P accesses and system/administrator initiated events over SifoScopes.

The system monitoring tools are explained in the table below.

System Monitoring Tools	Description
Performance data (**"Status > System Info"**)	Includes CPU, Hard Disk, Memory and RAM utilization charts. SifoScopes displays, in chart from, the system's resource utilization for the past 10 hours, using data collected every 10 minutes..
List of currently established sessions (**"Status > Current Session"**)	Displays the number of sessions currently established in the network for each type of service (HTTP, SMTP, POP3/IMAP, Web Mail, IM, P2P, FTP, Telnet). The total number of established sessions is also displayed. The information displayed for each session includes the source IP, destination IP, port numbers, start time, total traffic flow etc.
IM/P2P access log (**"Status > IM/P2P Log"**)	Records all IM/P2P application management events including whether a particular user's access to an IM/P2P application was accepted or dropped.
System / Administrator initiated event log (**"Status > Event Log"**)	Records all administrator and system initiated events such as administrator login, modifying settings etc.

When checking system's operating status, you can select any number of the above monitoring tools to use according to your requirements.

Configuration Procedure

The following procedure shows how to access the various system monitoring tools provided by SifoScopes.

Step 1 Login to SifoScopes UI.

Step 2 (Optional) Checking system performance

1. Select **"Status > System Info"** from the left menu bar.
2. From this interface, you can view various basic system information and resource utilization charts. This includes:
   - Size of system memory
   - System's hard disk operating status
   - Amount of time the system has been online
   - CPU, hard disk, memory and RAM utilization charts

Step 3 Viewing currently established sessions

1. Select **"Status > Current Session"** to view the total number of currently established sessions for each service type.
2. From this list, you can:
   - Click the service type from the **Service** column to view details of the individual sessions established using this service.

   📖 Note:

   Click the "Total" link in the list to view the list of sessions for all types of services.

   - Click the 🔍 icon from the top left corner of this list to search for specific sessions.

Step 4 Viewing IM/P2P logs

1. Select **"Status > IM/P2P Log"** from the left menu bar.
2. From the IM/P2P log list displayed, you can:
   - Display logs from another date by selecting the date from the drop down menu at the top of the list.
   - Click the icon from the top left corner of this list to search for specific logs.

Step 5 Viewing event logs

1. Select **"Status > Event Log"** from the left menu bar.
2. The log list of all administrator and system initiated events will be displayed. From this list, you can:
   - View various log information including the date and time the event occurred, name of the administrator that performed this event, IP address of the administrator's PC and the event description.

   Note:

   No **Admin Name** will be displayed for system initiated events. For such events, the logged **IP Address** is "LOCALHOST".

   - View configuration details for events involving system configurations by clicking the icon from the **Detail** column.
   - Search for specific logs by clicking the icon from the top left corner of the list.

9.5 Restoring System Data

This set of operations includes restoring SifoScopes' configurations to factory default settings, formatting the local hard disk, checking and repairing the system's database etc., allowing you to restore your system in the event of system failures.

⚠ Warning

Restoring the system's configurations may disconnect all system operations from the network. You may be required to reconfigure your system to re-connect it to the network. Therefore, we recommend that you backup the current system's configurations before the restore operation.

If SifoScopes is unable to display recorded data properly or data is corrupted, you can use the system's database check and repair function to correct these errors. Please avoid performing a database check/repair during time intervals with heavy network traffic to prevent overloading the SifoScopes system.

We recommend initiating a system restore operation via the SifoScopes web UI. If you are unable to login to the system's web based interface, please connect your PC to SifoScopes management console port and execute the restore operation.

Configuration Procedure (Via Web UI)

Step 1 Login to SifoScopes via a read/write administrator account.

Step 2 Select **"System > Setting"** from the left menu bar.

Step 3 From this interface, you can:

- Click **[Repair Now]** in the "Database Check / Repair" area to check and repair any errors in the system's database.
- Check the **Format the Built-In Hard Disk** checkbox and click **[OK]** to format the system's hard disk.
- Check the **Reset to Default Setting** checkbox and click **[OK]** to reset the system's configurations to the factory default settings.

Configuration Procedure (System Restore Via Console Port)

Step 1 Using a serial cable, connect SifoScopes' management console port to your administrative PC.

Step 2 Activate a hyper terminal program on the administrative PC and establish a connection with SifoScopes. Configure the connection properties as follows:

Bits per second: 9600

Data bits: 8

Parity: None

Stop bits: 1

Flow Control: None

Step 3 Login to the console interface using the default administrator account "admin". The default password for this account is "admin".

Step 4 The following will be displayed upon successful login:

```
Recorder->_
```

Step 5 Type "?" to view the system menu.

```
Recorder->?
Command :
    ifconfig          : Show Internal IP
    reset             : Reset Factory Setting
    passwd_recover    : Administrator Password Recover
    help              : Help
    ?                 : Help
    Exit              : Exit

Recorder->_
```

Step 6 From this menu, you can:

1. Enter "ifconfig" to view the internal IP address of the SifoScopes system.
2. Enter "reset" to reset the system configurations to factory default settings.
3. Enter "passwd_recover" to reset the password of the "admin" account to default ("admin").